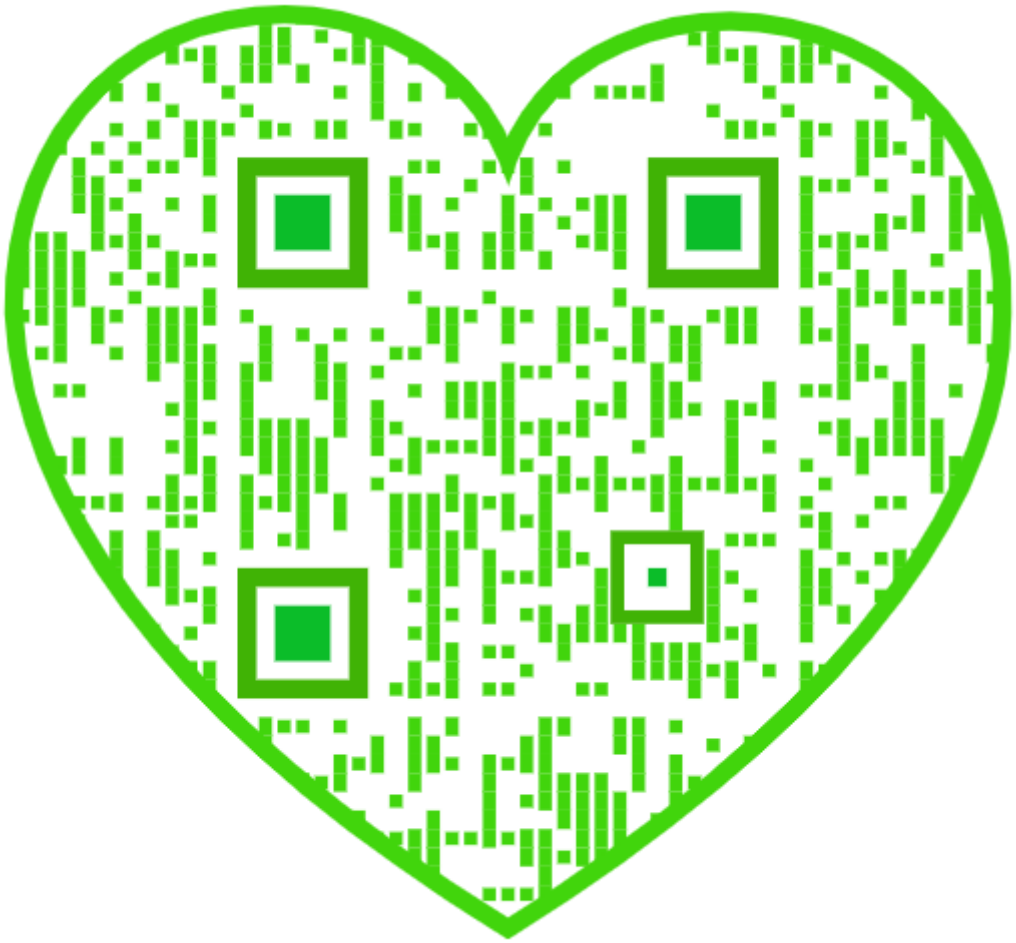

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THE HANDICRAFT BOOK

COMPRISING METHODS OF TEACHING CORD AND RAFFIA CONSTRUCTIVE WORK, WEAVING, BASKETRY AND CHAIR CANING IN GRADED SCHOOLS

BY

ANNE L. JESSUP

DIRECTOR OF HAND WORK IN THE PUBLIC SCHOOLS, NEW YORK CITY
DIRECTOR OF DOMESTIC ART, NEW YORK UNIVERSITY

AND

ANNIE E. LOGUE

TEACHER OF DOMESTIC ART, WASHINGTON IRVING HIGH SCHOOL

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INTRODUCTION

This sequence of hand work has been planned for a three years' course. It connects the kindergarten activities with the more advanced construction work of the primary grades, forming a foundation for sewing and garment making for the girls. It is also an excellent training for the more difficult forms of hand work for boys.

As the motive in play is pleasure, so the motive in work is practical use. The making of a finished article useful either at school or home, means much more to the child than an exercise without a direct aim.

Cord, Raffia and Reed with the opportunity given in the employment of these materials for large muscular movement are particularly adapted for children's use. The work gives scope for the child's natural dexterity and for the development of his constructive ability. In making an article he begins at once to reason and to judge.

The use of the soft pretty colors which may be obtained in these materials develops an appreciation of the beauty of tint and shade; while the many opportunities for exercising originality in design train the powers of observation. The pupil also learns independence of execution.

SUPPLIES FOR THE WORK IN CONSTRUCTION AND THE METHOD OF PREPARING THEM FOR USE IN CLASSES

Cable Cord. Sold by the pound. A loosely twisted, coarse cotton cord, white and colored. It is necessary to have the latter dyed in quantities. Select soft harmonious colors. It is more convenient to cut the large heavy skeins once than to roll it in balls. A good means of procuring the desired lengths is to wind the cord around two uprights, the distance apart being the desired length of the cord. Cut the skein thus formed twice.

Seine Cord. Sold by the pound. A coarse twisted cord. It may be bought in white and red. Cut the skein once, using heavy shears.

Macreme Cord. A finer cord, usually sold by the ball. It can be obtained in many attractive colors.

Flat and Round Cotton Corset Laces. Sold by the gross. They must be dyed to order to obtain the desired shades.

Raffia. Sold by the pound. A straw-like tough fibre, the product of the Madagascar Palm. It can be obtained in the natural color, bleached or dyed in various shades. The natural color is sold in a large braided

twist, weighing from one to four pounds. In using this material, loosen the braid, and hang it from the centre on a nail. Pull the strands from the top of the braid. The dyed raffia comes in a loose mass. It should be kept in a box or bag, as it is most important that the schoolroom should not be made untidy by the careless handling of these materials.

Round Reed or Rattan. Sold by the pound. It may be bought in various sizes, 0 very fine, 1 fine, 3 medium, and 5 and 6 coarse. When using the fine numbers for weavers, the whole length may be required. These lengths should be coiled around and an end run through the coil so as to keep it from untwisting while soaking. The coarse reeds for the spokes of baskets should be cut in desired lengths with pliers or shears. Tie together in bundles with a piece of raffia for soaking. A large pail or tub of water will serve the purpose in the classroom. The reed must be soaked for twenty minutes, or it will break when bent.

Flat Reed. Sold by the pound. The width varies from $\frac{1}{8}$ to $\frac{3}{8}$ inch. This may also be made pliable by soaking although it is not necessary in making the majority of the models.

Cane. Sold by the bundle. It may be bought in various sizes; fine, medium, and coarse. Use the latter for binding.

Binder's Board. A heavy cardboard used to make looms for weaving and forms for chair caning. A thin-

ner cardboard, or the backs of school pads when available, may be used for frames and circles. These may be cut to order at a small cost, or they can be made by the children.

Cotton Warp Thread. Sold by the ounce spools. It can be procured in brown, gray or black, and makes an excellent foundation thread for weaving.

Rug Yarn. Sold by the pound, usually in hanks, which may be cut once for convenience. It is also sold by the spool. Woolen rug yarn is softer and better than that made of jute. Care must be taken to procure attractive colors. Tan, brown, and dull green are good colors for the body of a rug. Harmonious colors must be chosen for the design.

Dexter's Cotton. No. 8 used for weaving washcloths.

Brass Rings. Sold by the gross, ½ in. to 1 in. in diameter.

Brass Cup Hooks (Small). Sold by the gross to be screwed to the back of the desk to hold the cords and the chains while the children are working. These, while helpful, are not absolutely necessary.

Tapestry Needles. Sold by the paper. No. 18, blunt.

FIRST YEAR

FIRST YEAR

KNOTTING AND LOOPING

Single, Double and Triple Knots

Materials:

1 yd. of colored cable cord for each pupil.

DIRECTIONS TO CLASS

Place ends of cords together and find center. Hold the cord at the center between thumb and first finger of left hand; wind one end around the hand, crossing the cords under the thumb and throwing the upper cord back over the hand. This forms a ring. With the right hand pull this upper cord through the ring. Pull both ends to make the knot tight. (Fig. 1.)

The entire length of cord may now be knotted and the knots counted when finished. The reason for beginning at the center is because the children will have a shorter length of cord to pass through the ring.

With a new piece of cord teach spacing. Suggest the first space by showing a given length to the class (about 1½ in.). All spaces should be as nearly as possible like the first.

The children are now able to make a fancy chain using some arrangement of single knots for design as in Fig. 2.

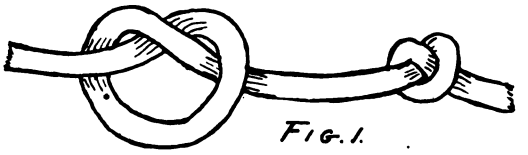


FIG. 1.

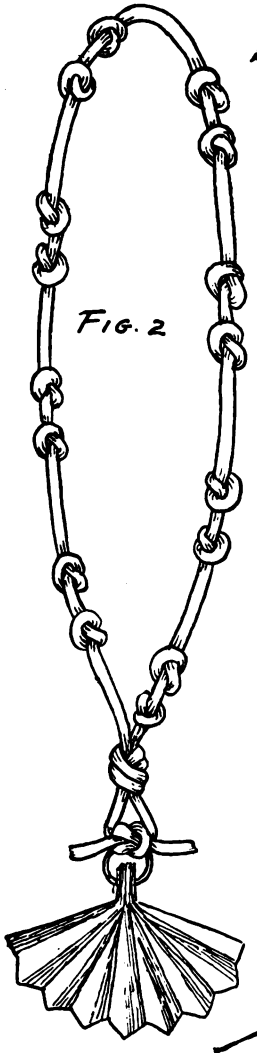


FIG. 2.

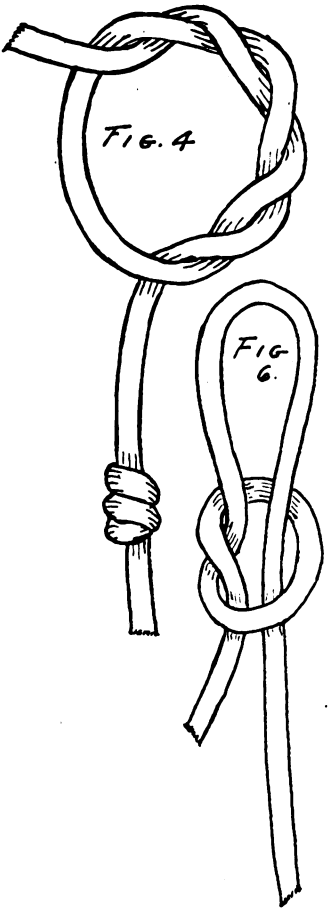


FIG. 4.

FIG. 6.

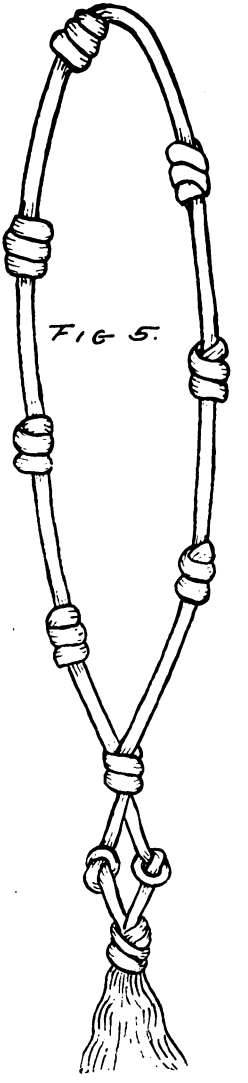


FIG. 5.

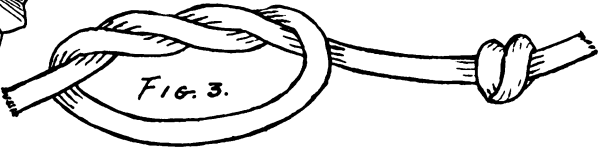


FIG. 3.

In making a double knot follow the directions for making a single knot, passing the cord through the ring a second time as shown in Fig. 3.

To make a triple knot, pass the cord through the ring three times (Fig. 4).

The best spacing is now secured by holding the last knot between the fingers while making the next knot, then pulling the ends of both cords quickly. Continuing this method a uniform spacing of about two inches is obtained. A properly made double knot will show two, and a triple knot three even coils.

Fig. 5 illustrates a simple neck chain of triple knots.

Slip Knot

Materials:

1 yd. of cable cord for each pupil.

The slip knot may be developed from the single knot. Wind the cord around two fingers and pull it partly through the ring, forming a loop. (Fig. 6.)

This slip knot is useful as a means of fastening articles to the chains. Made at the end of a cord it is used in tying a parcel. A very simple doll's curtain may be constructed with six or eight cords 14 in. long. Make a slip knot 2 in. down from the end of cord and space four knots on remaining length. When these chains are made, slip a splint of the same color through the

loops at the top and ravel the short ends. The curtain should be even at the bottom and may be mounted on cardboard if desired. Make two slits in each of the upper corners of a card six by nine inches and insert the ends of the splint. This method of mounting is shown in Fig. 7.

Knotting Two Cords

Materials:

1 yd. of cable cord for each pupil.

Double this length and make a single knot about 2 in. from the doubled end using both cords. On one of these cords make a single knot 1 in. below double knot. Repeat this on the other cord. Knot both cords together the same distance down. Continue this arrangement, knotting the length of the cord and ravelling the ends for a tassel. This exercise when finished may be used for a curtain cord. (Fig. 8.)

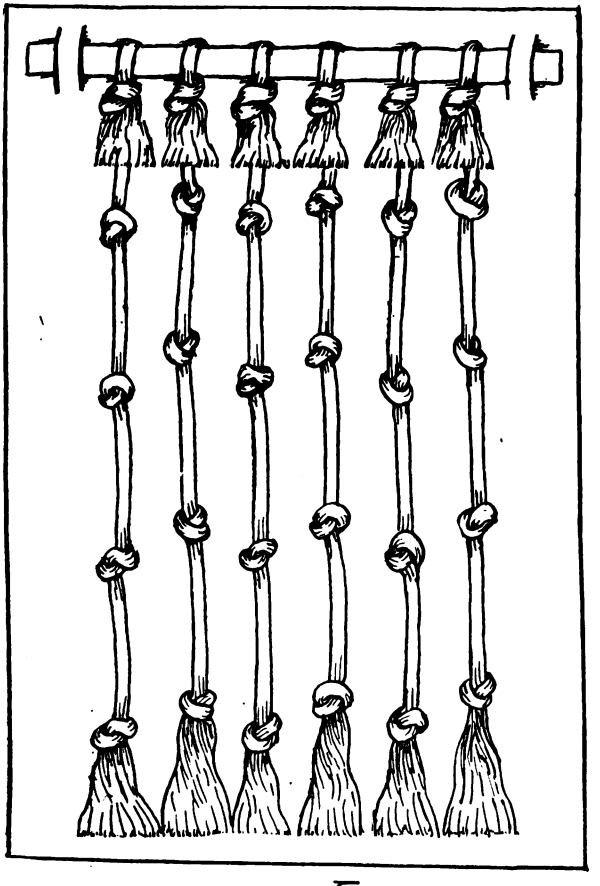


FIG. 7.

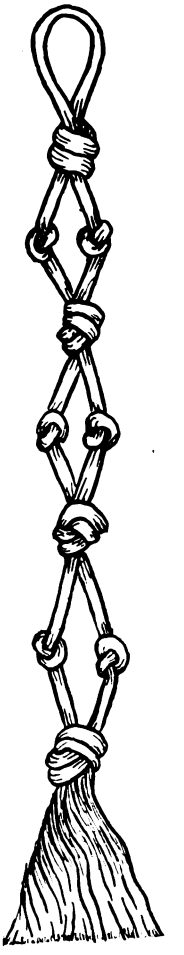


FIG. 8.

Single Knot Mesh

Materials:

7 pieces of cord, 1 yd. each.
Cardboard 6x9 in.
1 splint for each pupil.

Insert the splint in cardboard for rod or use a piece of cardboard shaped at the ends to keep the cords from slipping off.

Find center of cord, slip doubled end under the splint, pass the ends through this loop and pull down tight. Loop the other cords on in the same manner an even distance apart. There are now 14 cords. The former method of making the single knot will not give good results in this exercise. The knot should now be made by holding two cords firmly between thumb and first finger of the left hand the desired distance from the top. With the right hand pass the two ends above the thumb, forming a ring. Pull the ends through the ring and tighten the knot at the point held between the thumb and the first finger.

The first row of knots is made by tying the second and third cords together, then the fourth and fifth are knotted. Continue this tying once across.

For the second row begin with the first and second cords, then tie the third and fourth and continue to the end of the row. Finish each cord with five or six single knots and ravel the end.

This exercise makes a portière for a doll's house. A fancy chain or a single piece of cord may be used to fasten the portière back. (Fig. 9.)

Chain Stitch

Material:

1 yd. of cable cord for each pupil.

Tie a single knot at one end and directly below make a slip knot. Fasten the cord in the desk or to a hook by the knot. Hold the long cord in the left hand and the loop in the right hand. Through the loop (or slip knot) pull the long cord, making a new loop, and drawing the first one tight; pull the long cord with the left hand, which will shorten the new loop. Repeat this process.

This exercise will produce a perfectly even chain stitch. The movement downward is made first with the right hand to make the new loop and draw the former one in place, and then with the left hand to keep the new loop from becoming too large. To finish, pull the end through the last loop. An application of this exercise is shown in Fig. 10. It may also be used for horse-reins which will require about eight yards of cord.

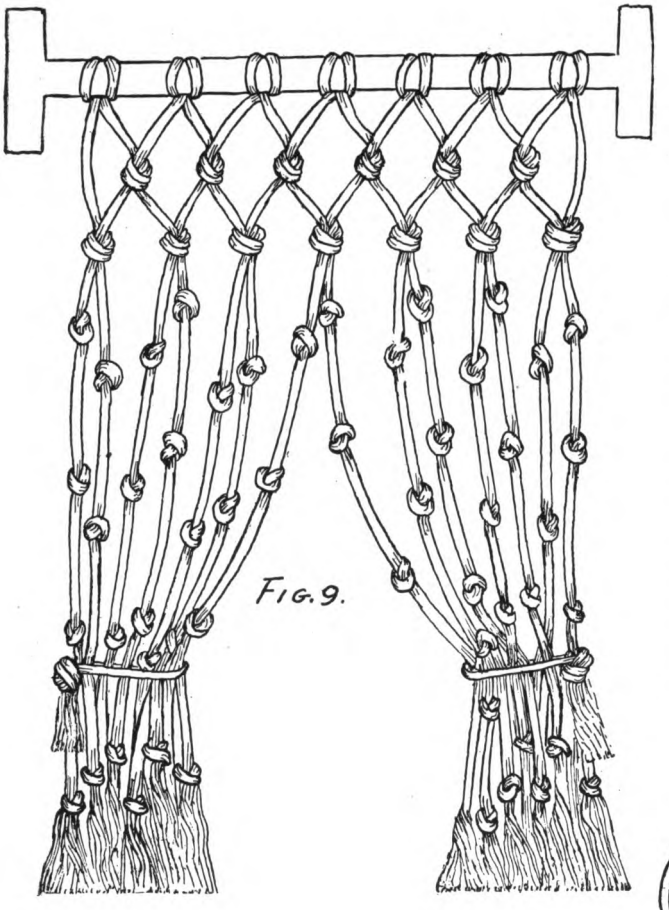


FIG. 9.

FIG. 10

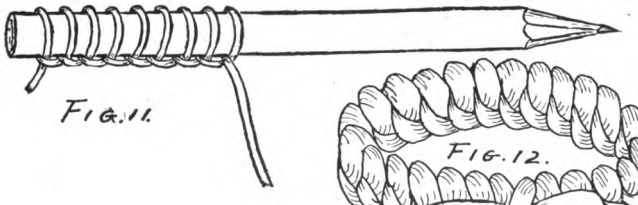


FIG. 11.

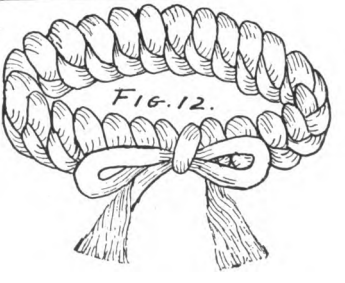


FIG. 12.

Loop Stitch

Materials:

1 yd. of cable cord.
1 splint for each pupil.

Loop stitch is here illustrated made over a pencil, but it may also be taught using a splint or ruler. (Fig. 11.)

Hold the pencil horizontally in the left hand, with one end of the cord under the thumb, with the right hand throw the other end of the cord over the pencil, making what the children call "a swing." With the right hand pull the long cord through the swing. Repeat for the second loop which holds the first in place and continue to the end of the cord. This particular exercise is called single loop stitch, and is the ground work of many of the models in the second year's work. It is important, therefore, that the loops should be made close and even before taking up the next exercise.

One application of this stitch is the napkin ring illustrated in Fig. 12. Take 1 yd. of cord and about 3 in. from one end make a ring around the left hand holding it in place with left thumb; cover this ring with loop stitches made with the long cord and tie the ends with knot.

Corkscrew Bar

Materials:

1½ yds. of cable cord for each pupil.

Divide cord in thirds. Make a slip knot at one third the length, fasten the loop in the desk or to a hook on the desk. Place the short cord at the left and the long cord at the right. Hold the short cord as a foundation in the left hand and with the right make five loop stitches, drawing them up at the top of cord. Pass the long cord over and under the foundation cord and continue looping as before. This method twists the loop stitches and gives the corkscrew effect. (Fig. 13.) Care should be taken that the first of every group of stitches be pulled close to the last stitch. There must be no space between the groups of five. When the bar is 4 inches long ravel the remaining length and the model will resemble a soft whip. Heavier ones may be made by using two or three cords as a foundation.

Double Loop Stitch

Materials:

3 lengths of cable for each pupil. 1 yd. red, 1 yd. white, third cord either red or white, 15 in. long.

Tie the 3 cords together, place the short length in the center and fasten the knot to the desk. With the left hand hold short cord firmly, make a loop stitch with

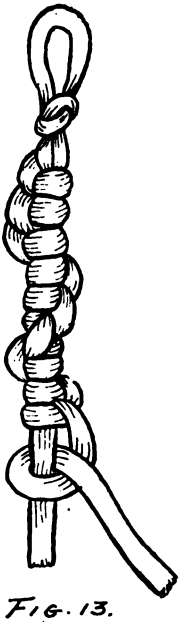


FIG. 13.

FIG. 14.

FIG. 15.

cord on right side, pull loop toward the top. Hold the short cord with the right hand, make a loop stitch on the left side with left cord. Continue in this manner, keeping the work flat. (Fig. 14.)

The short or foundation cord should be changed from one hand to the other for each stitch. If desired, cords of the same color may be used on right and left sides. The use of two colors gives a pretty effect and aids in directing the work. This exercise when finished may be used as a key-guard or watch-fob.

See-Saw Knot

Materials:

2 lengths of cable cord, 1 yellow and the other brown, 1 yd. each.

Tie cords together near the ends with single knot and fasten to desk. Hold the left cord in a vertical position, pulling it tight. With the right hand make a loop stitch with the other cord, draw up loop toward the top still holding foundation cord with left hand. Change positions of hands, now holding the right cord firmly as a foundation and making a loop stitch with the left cord. (Fig. 15.) This movement of the hands up and down gives the name " see-saw " to the exercise. Continue looping each cord around the other alternately, producing a strong flat braid which may be used for a fancy chain.

Spiral Chain

Material:

2 lengths of cable cord, 1 white and the other green, 1 yd. each for each pupil.

Place the green cord horizontally on desk, and the white cord on top vertically, crossing in the middle. Take the ends of the green cord in each hand. Tie these ends by passing right end over and under the left to the other hand. (Note that the right end is now in the left hand and the left end in right hand.) Slip knot down towards center enclosing the white cord. Repeat this exercise with the vertical white cord. Care must be taken to tie the knot flat and close, and directly across the preceding one. (Fig. 16.) Tie the first three knots on the desk in order to place them properly, after which the cords may be held in the hands. This exercise may be applied in making a loop for a curtain or in making a whip, by doubling the vertical cord and tying the first knot with the horizontal cord a short distance from the doubled end.

Twine Bag

Materials:

12 pieces of seine cord ¾ of a yd. in length.
2 pieces 14 in. long.
Cardboard 4½ by 6 in.

Hold the card with the long edges vertical, tie the

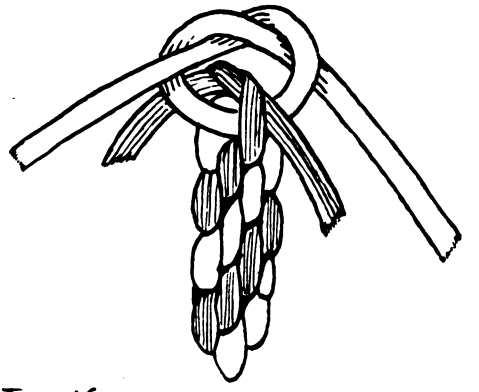


Fig 16.

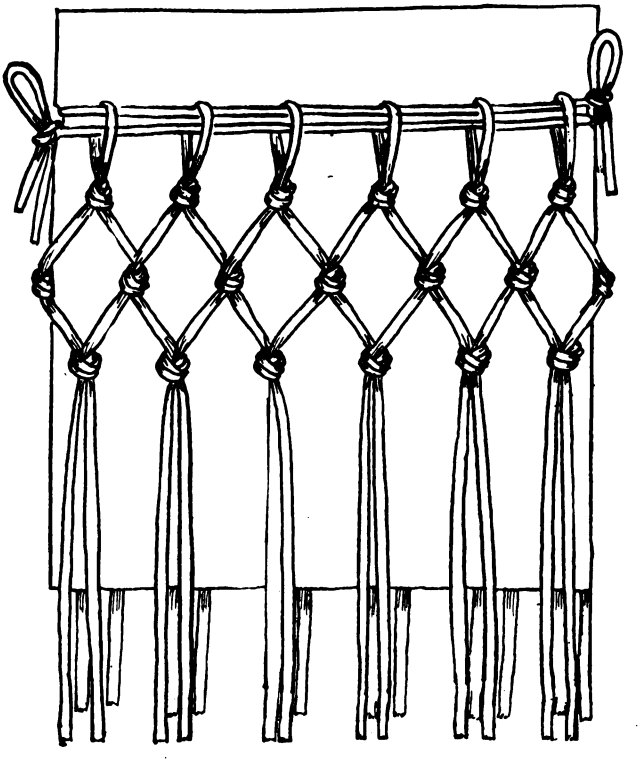


Fig 17.

short cords round the card 1 inch from the top, the knots being on opposite sides. Notches may be made on each edge of the card to hold the cords in place; these cords are the draw strings of the bag.

Pass one end of a long cord under these draw strings, double it and one-half inch down from the top make a single knot as described in the single knot mesh. Six cords should be knotted on each side of the card. (Fig. 17.) For the second row, knot together the right and left of each double cord, not forgetting the end cords which must be knotted on the edge of the card. The third row of knots should be like the first row and directly under it. The spacing being even and the knots not more than an inch apart. After knotting four or five rows remove the cardboard. Finish by winding a piece of cord around all the ends directly under the last row of knots, fasten with a tight knot and ravel the ends to form a tassel, place a ball of twine in this bag and draw the end through the lower part.

Shopping Bag

Materials:

16 pieces of red macreme cord, 1 yd. each.
Cardboard 6x9 in.
2 pieces of macreme cord, ½ yd. each.

Tie the short strings around the top of the cardboard as in the twine bag. Double each length and loop

over the short strings at the top. Make six rows of knots around the card forming the single knot mesh. Finish the bottom by taking the double cord on both sides below the cardboard and tying them together in a single knot close to the last row. Eight knots finish the bottom of the bag. Ravel cord for tassels and trim the ends evenly. (Fig. 18.)

Square Picture Frame

Materials:

Cardboard 1x5 in.; 4 pieces.
Several strands of green raffia.

Smooth out each strand of raffia to resemble a narrow ribbon. Beginning with the thick end of raffia wrap each piece of cardboard, very smoothly lapping the edges a little, and leaving one inch at each end uncovered. Conceal the ends underneath the wrapping, using for the purpose wooden toothpicks. Avoid twisting the raffia. Join the frame by pasting the four corners together. A piece of raffia can be tied to the upper sides for a hanger. (Fig. 19.)

Fig. 18.

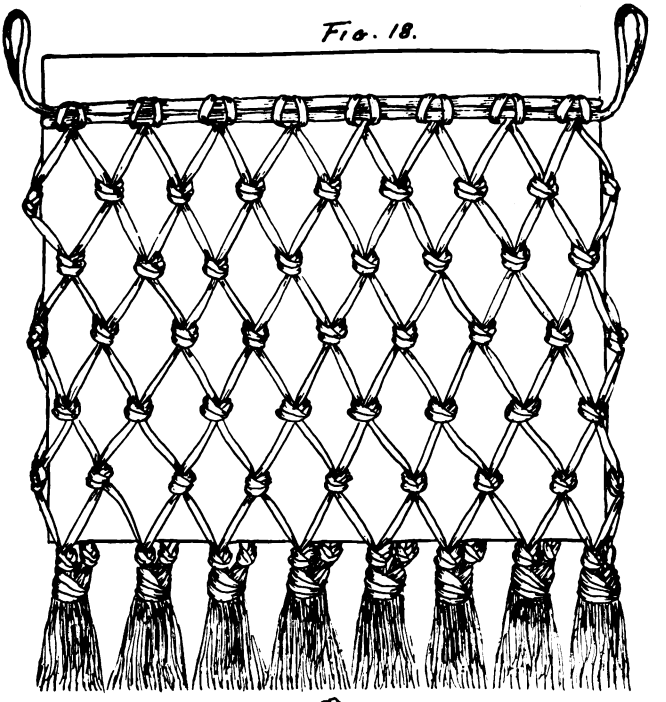
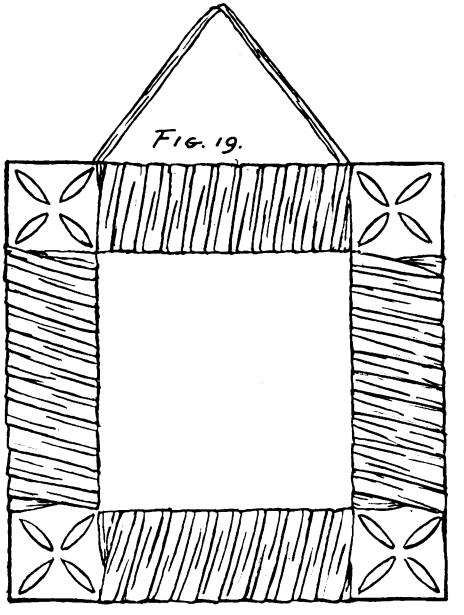


Fig. 19.



Napkin Ring

Materials:

About a dozen strands of raffia, red and tan.
Cardboard 8x1½ in.

Make a ring of the cardboard, lapping one inch. Cut a small slit through both edges near the ends, fasten the ring by tying a thin strand of raffia round the cardboard through the slits. To cover the ring take two pieces of raffia red and tan; tie the thin ends with a flat knot. Hold the raffia on the outside of ring so that the red is on the right and the tan is on the left, the knot being at the edge. Make a loop stitch with red raffia on the right, and with tan on the left. Use right and left hands alternately; the result will show red loops on one edge and tan on the other. A new piece of raffia is joined by holding the old and new ends together and looping over both. Avoid joining the red and the tan at the same time. To finish the ring tie the two ends together with a flat knot on the inside and press ends under the work. An excellent way to fasten raffia is to thread a tapestry needle with the remaining end and sew in and out a few times. (Fig. 20.)

Round Picture Frame

Materials:

A cardboard form, either circular or oval.
Several strands of raffia, brown and yellow.

Cover this cardboard form with double loop stitches as in making the napkin ring. When the looping is finished pass the threads of raffia through the frame and tie with a knot which should be concealed under the looping. The frame may be hung by a loop of raffia or a small brass ring may be covered like the cardboard frame and fastened to the top. (Fig. 21.)

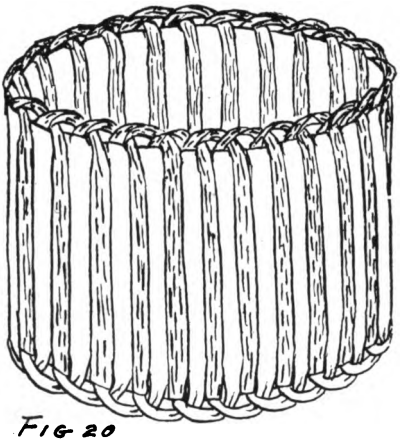


FIG 20

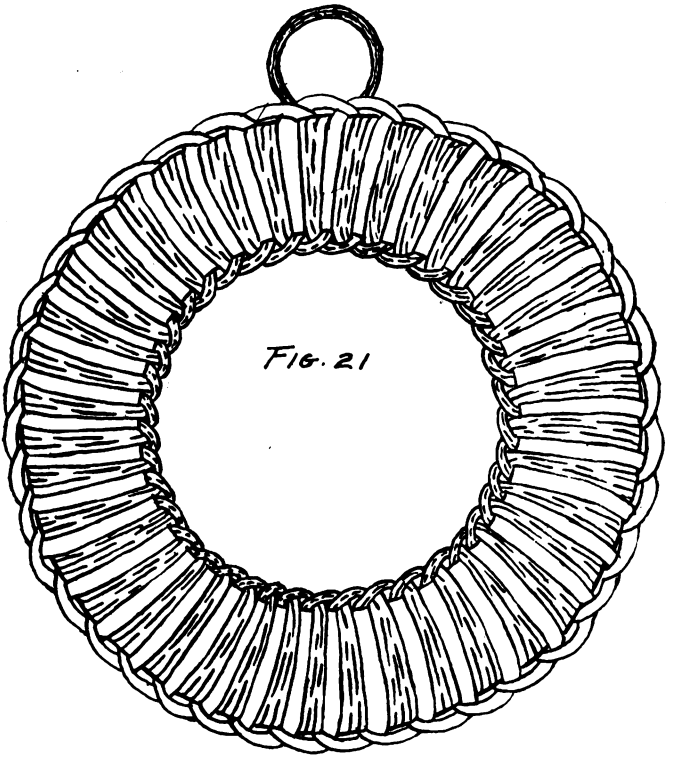


FIG. 21

SECOND YEAR

SECOND YEAR

KNOTTING

Sailor Knot

Materials:

½ yd. of flat corset lace or ribbon.
A small card.

Place the card, which represents the collar, on the desk; pass the ribbon around the card leaving the end at the right longer than at the left. Pass the right end over and under the left end (Fig. 23a). Pass 1 over 2 again (Fig. 23b), then under 3 (Fig. 23c), and down through the loop 4 (Fig. 23d).

Bow Knot

Material:

½ yd. of cable cord.

About five inches from one end make a loop without crossing the cords. Hold this loop in the left hand with first finger and thumb. With the right hand take the long end, pass it around the loop from right to left, making a small ring. Pull the cord through the ring with the left hand forming a second loop. (Fig. 22a.) Pull the loops with both hands, forming a tight knot. (Fig. 22b.)

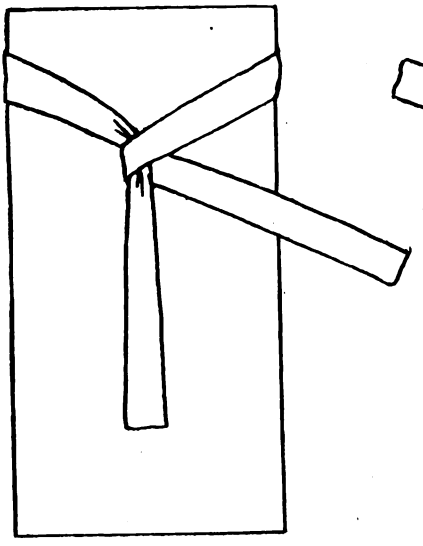


FIG 23 a.

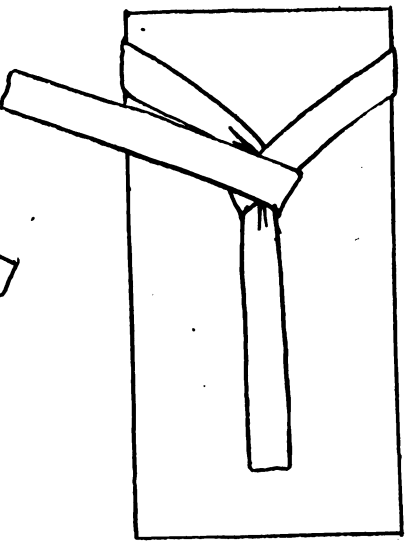


FIG. 23 b.

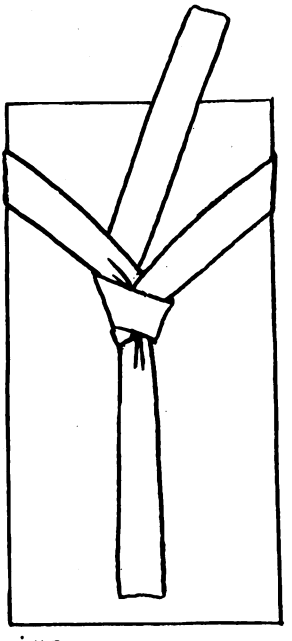


FIG. 23 c

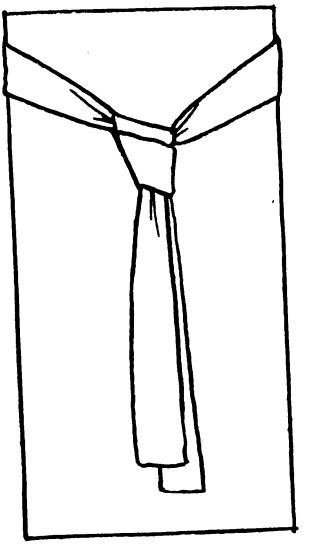


FIG. 23 d.

The shoe-string knot may be developed from the preceding lesson. Make the first loop as for the bow-knot, then pass the long end of cord twice around this loop instead of once. (Fig. 22c.) Pull the second loop through both rings and tighten. (Fig. 22d.)

This is an excellent fastening for a shoe-string as it will not readily loosen.

Flat or Reef Knot

Materials:

2 pieces of cord, ½ yd. each in length, one red and the other white.

Hold the white cord in the right hand, the red in the left, 2 in. from the end. Cross the white over and under the red (Fig. 24a). Cross back again over and under the red (Fig. 24b). Tighten the knot by pulling the cords on both sides.

This knot is used whenever a strong flat joining is required.

Fisherman's Knot

Material:

2 pieces of seine cord, each 10 in. long, one red, the other white.

Place the two cords horizontally on desk, lapping five inches. Tie the end of the red cord round the white cord five inches from end with single knot. Tie end of white cord round the red cord five inches from end with single

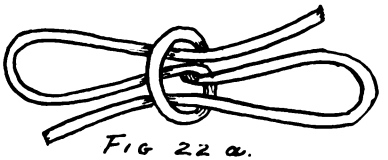


FIG 22 a.

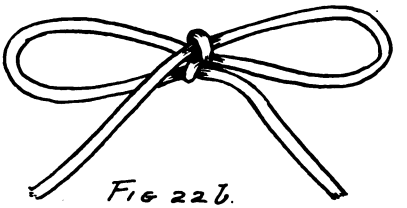


FIG 22 b.

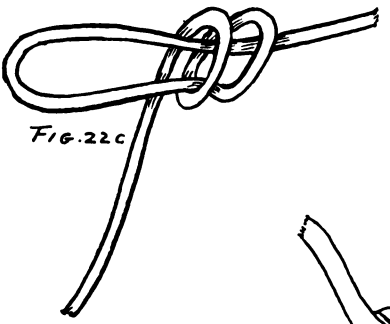


FIG. 22 c

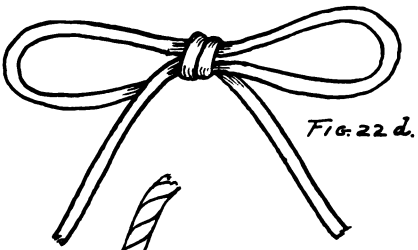


FIG. 22 d.

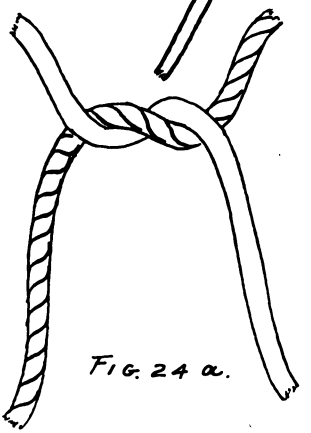


FIG. 24 a.

FIG. 24 b.

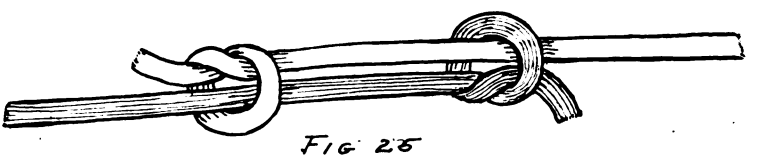


FIG 25

knot. Pull the cords and the knots will run together, making a secure joining. This is sometimes called the kite-string knot. (Fig. 25.)

Bowline Knot

Material:

½ yd. of seine cord.

Make a small ring in center of cord, holding it in left hand (Fig. 26a). Pass the end of lower cord through the loop from underneath, leaving a large loop (Fig. 26b), then under the upper cord and down through the ring (Fig. 26c). Hold the short end and loop in one hand and pull the long end to tighten the knot. A weight may be placed in this loop, the knot becoming more secure as the strain increases.

Fig. 27 illustrates the running bowline knot.

Weaver's Knot

Materials:

2 pieces of cord ½ yd. each, one red and the other white.

Hold the red cord in the right hand, the white cord in the left hand about two inches from the ends. Cross the red under the white, holding both cords firmly between the thumb and first finger of the left hand. Form a ring by taking the long end of the red cord with the right hand, passing it under the thumb, also the short

red cord, holding it in place between first finger and thumb of left hand. (Fig. 28a.) Pass the short white end over the thumb and through the loop (Fig. 28b). Tighten by pulling both white cords with the left hand and the red cords with the right hand. Unless the knot be pulled in place as directed it will slip.

This knot is used by weavers on account of its strength and because a broken end of thread however short can be securely joined to a new one.

Square Knot

Material:

2 pieces of cable cord, one red and the other white.

Place the red cord vertically on the desk and the white cord horizontally on top crossing at the centre. Number the four ends as in Fig. 29a. Place 1 over 2, leaving one-half inch loop at top. Place 2 over 1 and 3. Place 3 over 2 and 4 (Fig. 29b). Place 4 over 3 and down through loop at the top (Fig. 29c). Draw in place by pulling the lower cords with first finger and thumb of each hand, the upper cords between the middle and fourth fingers (Fig. 29d).

Repeat this exercise, commencing always with the same color.

A very pretty cord may be made for a sofa pillow, or the exercise may be used in making a watch-fob, using flat laces instead of cord.

FIG. 26a

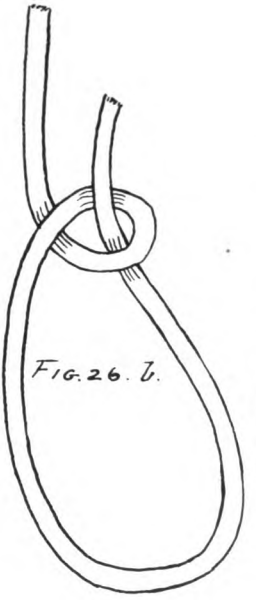


FIG. 26. b.

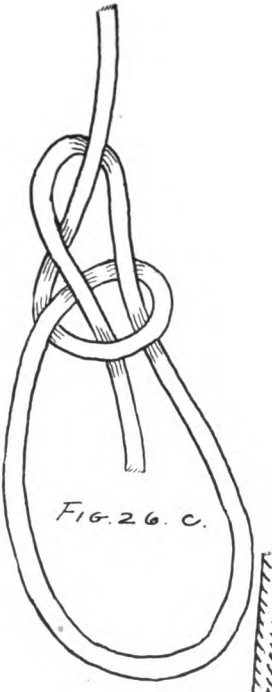


FIG. 26. c.

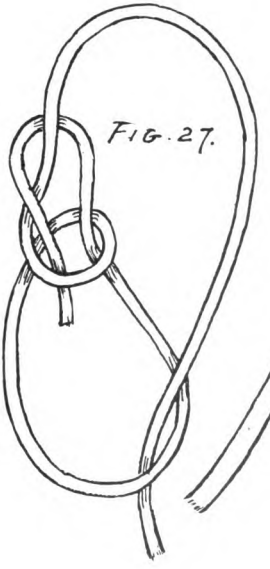


FIG. 27.

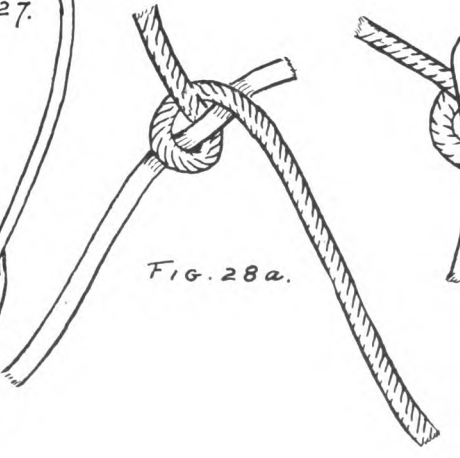


FIG. 28a.

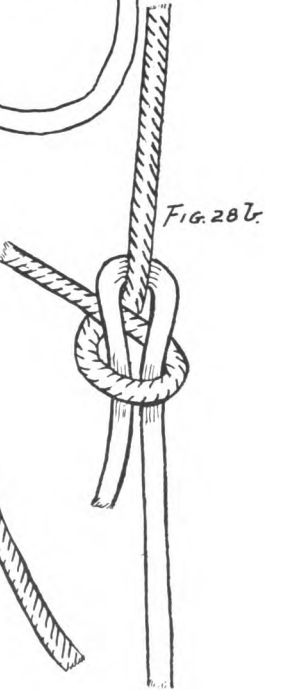


FIG. 28b.

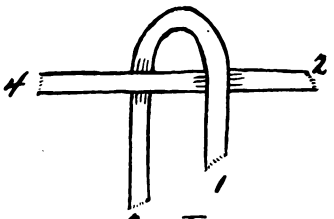


Fig. 29 a.

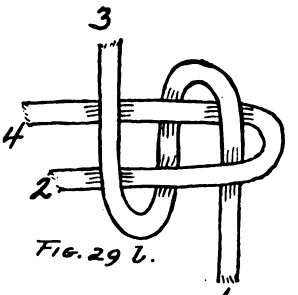


Fig. 29 b.

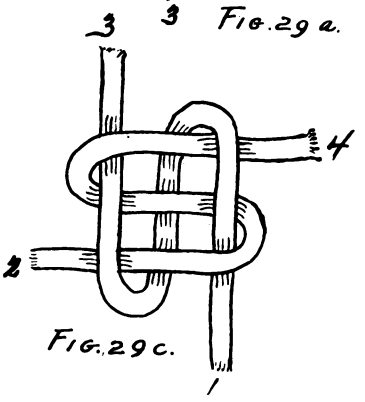


Fig. 29 c.

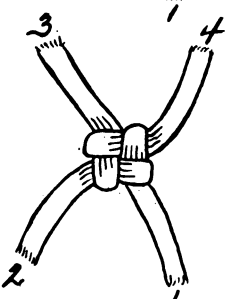


Fig. 29. d.

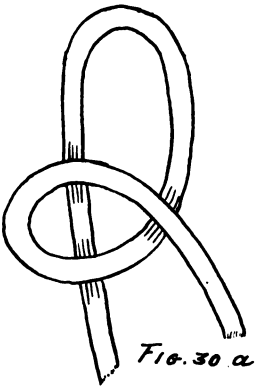


Fig. 30 a.

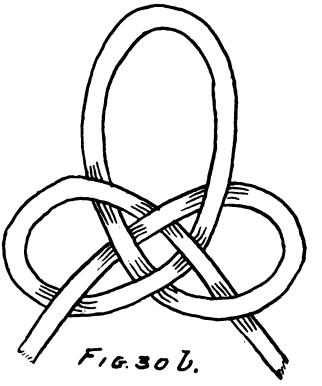


Fig. 30 b.

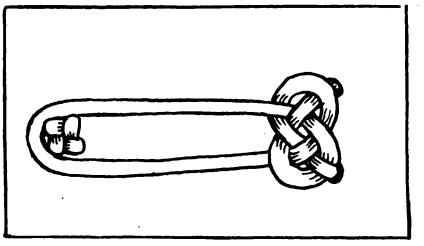


Fig. 30 c

In making a chain, a loop on which to fasten any article desired, may be tied in one of the cords before beginning the exercise.

Military Knot

Material:

1 yd. of cable cord.

Double the cord and fasten the centre to the desk. With the right cord make a ring over the left (Fig. 30a). The left cord is woven in and out this ring; over 1, under 2, over 3, under 4, and over 5, as shown in Fig. 30b. Hold the loop above the knot with the first finger of each hand drawing the knot in place by pulling the cords with thumbs and middle fingers.

To facilitate the teaching of this knot it is helpful to refer to a blackboard diagram where the different points are numbered. After the knot has been made on the desk the children should be able to repeat the exercise, holding the cord in their hands.

A simple application of this exercise is a decoration or fastening for a garment. This may be mounted on cardboard as follows: Punch two holes in a card one inch apart. Make the military knot and pass each end of the cord through a hole. Fasten by tying twice on the wrong side. A button may be made of two square knots and fastened to the card by passing the ends through a third hole opposite the military knot (Fig. 30c).

Bannister Bar

Materials:

2 pieces of cable cord 1 yd. each in length, one blue and the other white.

Join the two cords by turning down one-third of the blue cord making a loop; at the same place on the white cord make another loop, slip the white loop over the blue one (Fig. 31a). Draw the white ends through the blue loop.

Fasten this knot in the desk so that the two short cords are in the center forming a foundation. The long white cord should be on the right and the long blue cord on the left. Place the blue cord over the short ends, forming a loop which resembles the numeral 4 (Fig. 31b). Pass the long white cord over the blue end, under the foundation and through the loop from underneath (Fig. 31c). Repeat the exercise, always making the loop with the left cord. The bannister bar leads directly to the Solomon's knot, the only difference being that the loop is made alternately with right and left cords over the foundations (Fig. 31d).

The cords for these exercises may be fastened to a nine-inch piece of cardboard. The short, or foundation cords, are held in place firmly by being attached to the lower part of the card.

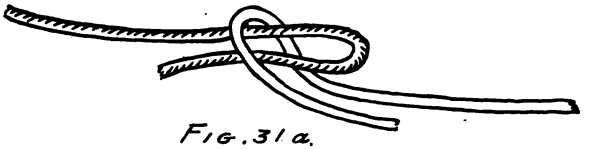


FIG. 31 a.

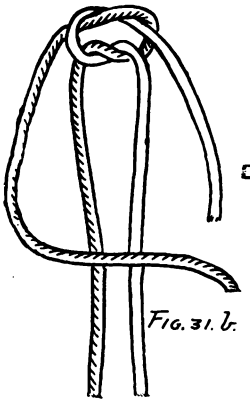


FIG. 31 b.

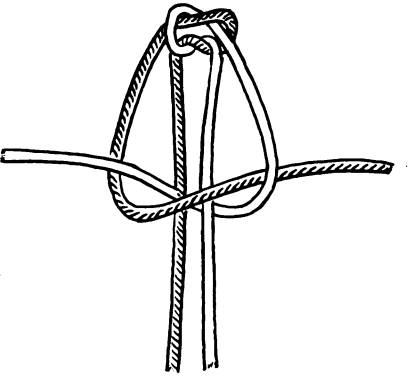


FIG. 31 c.

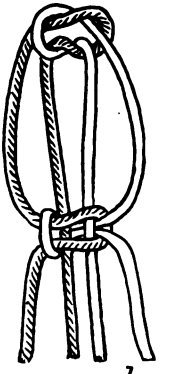


FIG. 31 d.

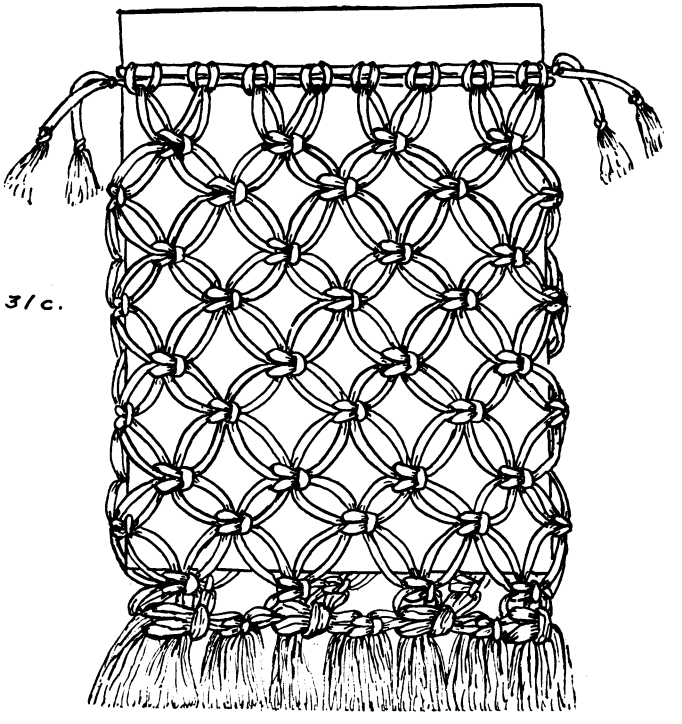


FIG. 31 e.

Bag Made of Solomon's Knots

Materials:

2 pieces of cable cord ½ yd. each.
16 pieces of cable cord 1¼ yds. each.
Cardboard 6x9 in.

Place the card vertically on the desk, tie the two short cords around the card one inch down from the top, having the knots on opposite sides. Loop eight cords on each side as for the shopping bag. One inch down from the top make a row of Solomon's knots, using groups of four cords. In the second row of knots the two cords which were used for the foundation in the first row, are now used for tying. The cords formerly used for tying now form the foundation. Make these knots one inch below, and between the upper knots.

When six or seven rows of knots have been made draw the work down so that the last row is even with the lower edge of the card. Finish by making one row of knots across the bottom, using two cords on the under side for tying and two on the upper side as a foundation. Cut the ends one inch below the last row of knots and ravel the cords for a fringe (Fig. 31e). This bag may be made from strands of raffia instead of cord.

A very pretty picture frame may be made with Solomon's knots, using two colors of raffia and tying the knot over a circular cardboard foundation. One side of the frame will be of one color and the other side of another color.

Hammock

Materials:

10 pieces of macreme or seine cord 1½ yds. each.
2 pieces of macreme or seine cord ½ yd. each for binders.
2 1-inch brass rings.

Pass one of the long cords through the ring; double it. About three inches from the ring make a single knot as described in exercise for the first year; tie the remaining cords through the ring in the same manner. Make eight rows of knots one inch apart. Be careful to keep the mesh even. Remove the hammock from the hook. Near the brass ring hold all the cords together; double over four inches of the binding cord; place the doubled end or loop parallel to the other cords toward the hammock. Beginning at the ring wind the long end of the binding cord ten or a dozen times around all the cords allowing the short end to project a little near the ring; slip the end of the binding cord through the loop, pull up the projecting end of the short piece near ring, the long end and the loop will then slip under the binding. Both ends may now be cut off. Avoid drawing the binding too tight or the end will not pull in place beneath the binder. The other end of the hammock is finished by passing all the cords through the second brass ring and binding in the same manner (Fig. 32).

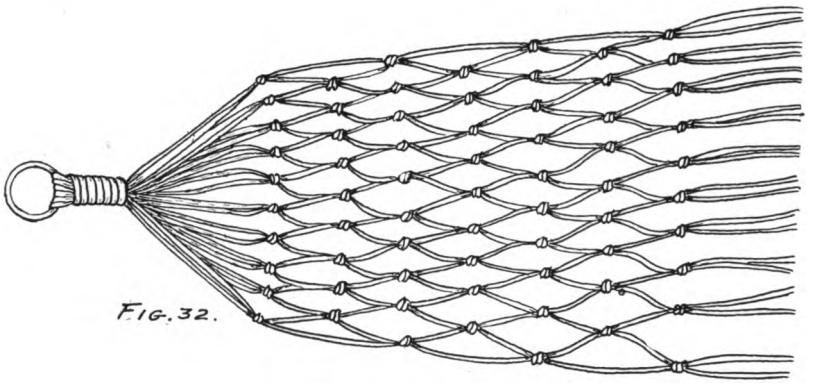


FIG. 32.

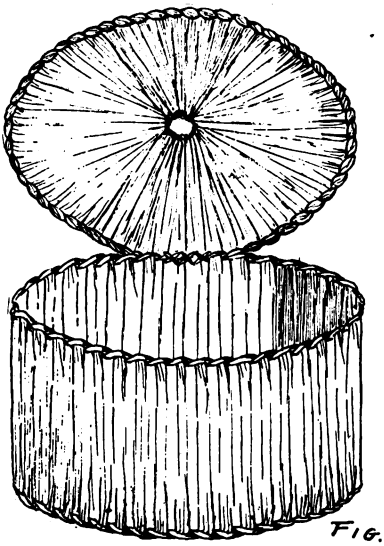


FIG. 33.

Round Box

Materials:

2 circles of cardboard, 4 in. in diameter.
Cardboard for side 14x1½.
Natural colored raffia.
Tapestry needle.

In the center of the circles cut out a round hole three-quarters of an inch in diameter. Split the strands of raffia and cover the circles with loop stitches, the loops on the outer edge. One of the circles makes the bottom of the box and the other the cover. Fit the strip of cardboard to the bottom and lap the ends. Make a small slit on both edges where the cardboard laps and tie it with a thin piece of raffia. Cover this ring with loop stitches, and sew to the circle intended for the bottom. Sew with raffia through the loops on side and bottom alternately. Join the cover to the top with a few firm stitches and make a bow of raffia for the center (Fig. 33).

Square Box

Materials:

2 pieces of cardboard 3x4 in.
Cardboard for side 16x1½ in.
Natural colored raffia.
Tapestry needle.

Cover the oblong cardboards for top and bottom of box, the short way of the card, by wrapping the raffia around the card without looping. The raffia should be carefully smoothed out like a ribbon and not split. Lap only the edges of the raffia, keeping the work flat. To finish, thread a needle with the raffia and pass the end well up under the wrapping.

Cover the cardboard strip for the sides with loop stitches, except one inch at each end. Measure the length of the sides on the strip and bend to form the corners. Lap the ends and cover with loop stitches. Sew the looped edges of the side to the long edges of the bottom of the box, taking a stitch through a loop on the side and through a strand of raffia on the bottom. The short side will stay in position without sewing. Join the cover at the long side in two places with several stitches (Fig. 34).

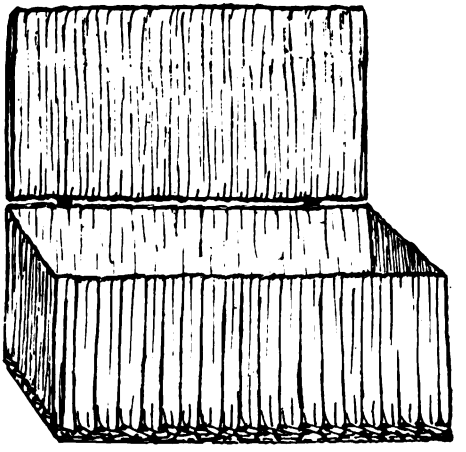


FIG. 34.

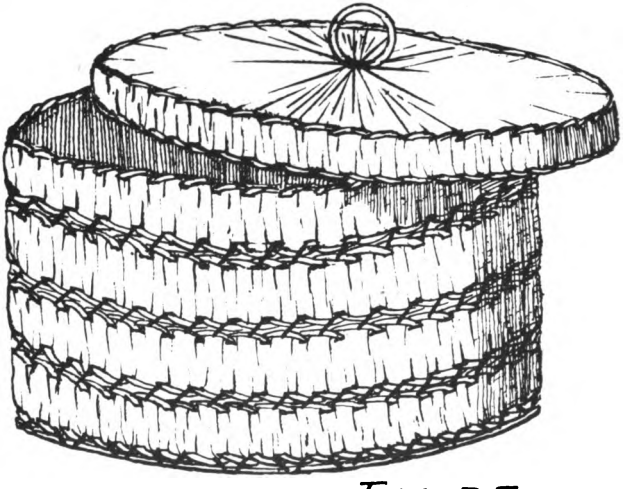


FIG. 35.

Round Box (With Sides of Flat Reed)

Materials:

4-inch circle of cardboard for bottom.
4½-inch circle of cardboard for cover.
5 pieces of flat reed ⅜ in. wide, 14 in. long.
Natural colored raffia.
Tapestry needle.

Cut a round hole three-quarters of an inch in diameter in center of cardboard circle for bottom, and cover with loop stitches. The raffia should be split or the center will be too thick. Fit a piece of flat reed around the bottom, notch the lapped ends and tie with raffia. Cover with double loop stitches. Join the raffia by lapping the old and the new ends and looping over them. Cover four of these reed rings, and sew together to form the sides of the box, then sew to the bottom. Wrap the other piece of cardboard for the cover and sew a ring of reed covered with looped raffia around it for a rim.

Larger boxes are attractive but are more difficult to make, as it requires considerable skill to cover neatly a larger circle (Fig. 35).

Woven Bag

Materials:

Cardboard 3x5 in.
3 flat corset laces, one white and two green.
2 lengths of laces for handle ½ yd. each, green and white.

Tie the white lace around the short end of the card about three inches from the top. Wind the lace around the card ten times, using a loop stitch at one edge to hold the lace in place. At the lower edge of the card pass the lace to the opposite side and finish by looping up to the top. Fasten with a knot to the upper string.

Near the first loop stitch at the top tie a green lace. Using the metal end of the lace as a needle, weave over and under to the lower edge of the card. Turn the card and weave in the same way up to the top. Weave back and forth until the strings are all covered. Fasten the lace to the top string and cut off. Make a handle of see-saw knots and fasten to bag (Fig. 36).

Book-Mark No. 1

Materials:

1 6-inch splint, natural color.
3 3-inch splints, natural color.
1 strand of green raffia.

Lay two short splints in the form of the letter X on the desk, place over these the long splint in a vertical

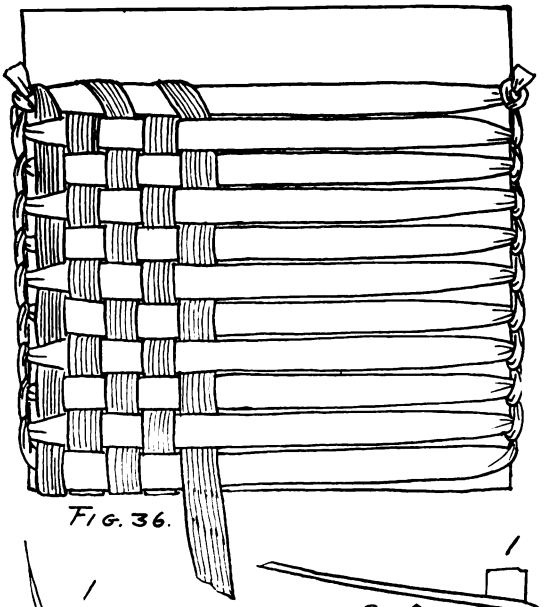


FIG. 36.

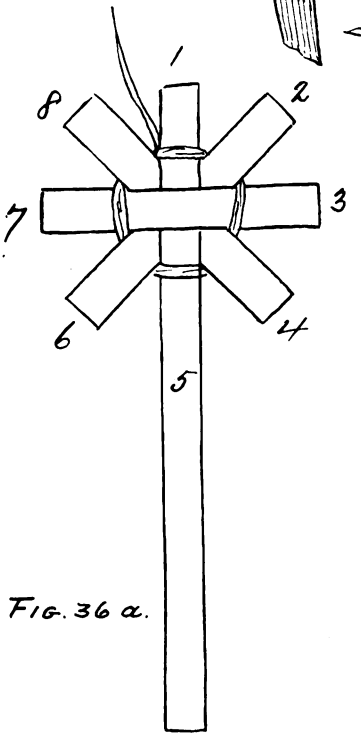


FIG. 36 a.

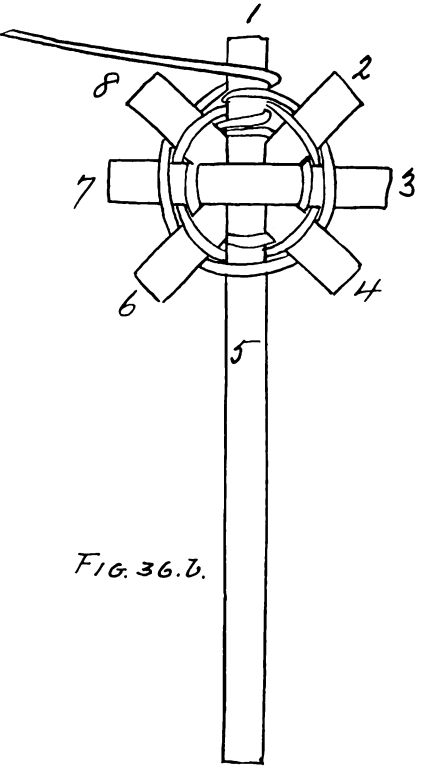


FIG. 36. b.

position and the third small one horizontally across. Hold them in the center with the left hand, and at the same time the end of a strand of raffia, back of the splints. Number the splints as in the diagram (Fig. 36a). Weave the raffia over 1, under 2, over 3, under 4, over 5, under 6, over 7, under 8. Press the weaver, or piece of raffia, towards the center each time. Having an even number of spokes it is necessary to weave from number 1, first to the right and then to the left, each time going around number 1 (Fig. 36b). Finish by tying the raffia to the first end, back of the splints.

Book-Mark No. 2

Materials:

1 6-inch splint, yellow.
3 3-inch splints, yellow.
Several strands of raffia, brown and orange.

Arrange the splints as in Fig. 36a. With a piece of raffia weave over and under the spokes commencing with number 1. When once around, tie close together and trim near the knot. This is done to hold the spokes.

Tie the small ends of the brown and orange raffia together with a flat knot. Place the raffia around number 1 (Fig. 37) the brown on top, the orange under. Twist the strands and twine around 2, the orange on top, the brown under. Twist again and weave around 3, the brown on top, the orange under. When completed the

spokes will be covered alternately with brown and orange. This is called in basketry, twining or pairing, and is one method of weaving with an even number of spokes. Continue the weaving in the same direction to the end and fasten by tying the two pieces under a spoke, cutting the ends close (Fig. 37).

Mat of Circular Weaving

Materials:

1 6-inch circle of cardboard.
Natural and colored raffia.
Tapestry needle.

One-half inch from edge of circle draw an inner circle, and one diameter. Make an uneven number of dots on the inner line about one-half inch apart, having one at each end of the diameter. Perforate these dots with a sharp pointed nail or large needle. One circle properly perforated may be used as a guide in marking the dots on another circle.

Thread the needle with a strand of natural colored raffia, having a knot at the end. Insert the needle from underneath through dot 1 (Fig. 38a), down through 2, which is directly opposite (this covers the diameter of the circle), up through 3, down through 4, and up through 5. When necessary to join the raffia, tie the two pieces together with a flat or weaver's knot on the under side between two holes. When the raffia is

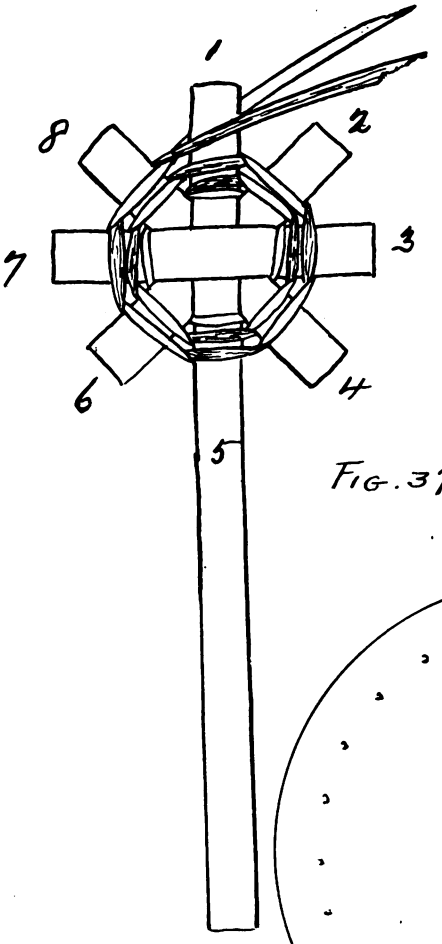


FIG. 37.

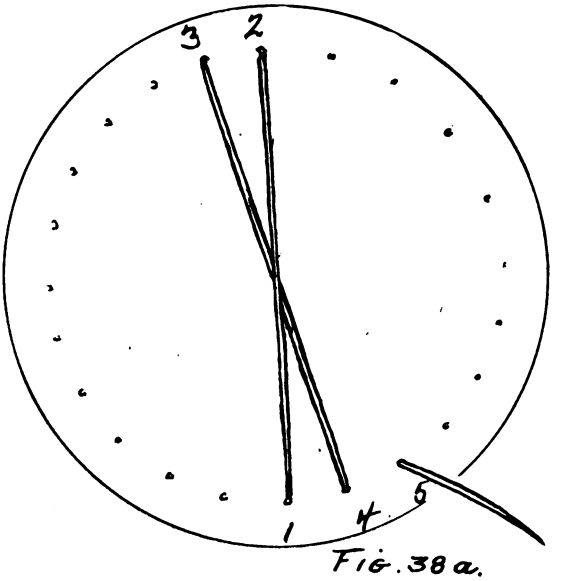


FIG. 38a.

threaded through the last hole, which is the odd one, fasten at the center through the raffia with a single loop stitch.

Weave by working over and under each strand. When once around draw the weaver tight to form an exact center and tie. Continue weaving for a distance of one-half inch from the center, when a new color may be added. To join a new strand of raffia commence two inches back, covering and lapping the old end. Weave to the edge of the circle. A pleasing effect is given by using harmonious colors alternately. Remove the mat by breaking the cardboard at the edge of the circle. If any ends of the joined weavers show, draw them through the upper side and cut close. The under side next to the cardboard shows the smoother finish. To secure the best results the card should be threaded with wide strands of raffia and the weaving put in loosely with split raffia.

Another method of preparing a card for circular weaving is as follows: Make the perforations and sew a half-inch brass ring in the center with four strong stitches an even distance apart. Tie the small end of a strand of raffia to the ring and pass down through 1, up through 2, and under the ring; down through 3, up through 4 and under the ring (Fig. 38b).

A pretty handbag or pocket may be made by stringing a second card, using only two-thirds of the circle,

having a ring for the center. Weave backward and forward on these strings to the edge of the circle. Sew the edge of this to a circular mat. Finish with a knotted raffia handle (Fig. 38c).

A whisk-broom holder may be made by joining two circular mats at the sides and finishing with a see-saw chain of raffia for a handle.

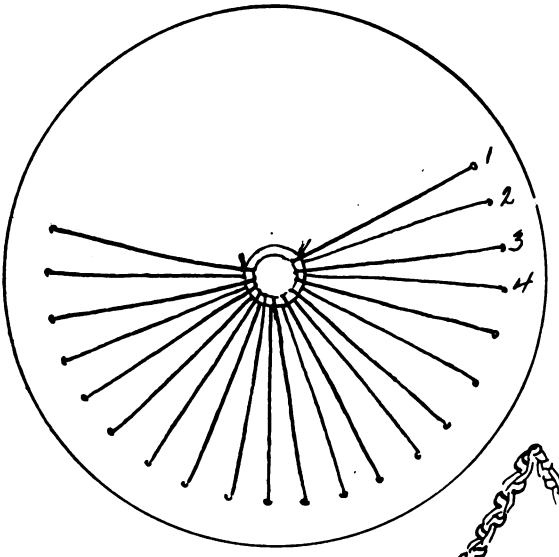


FIG. 38 b.

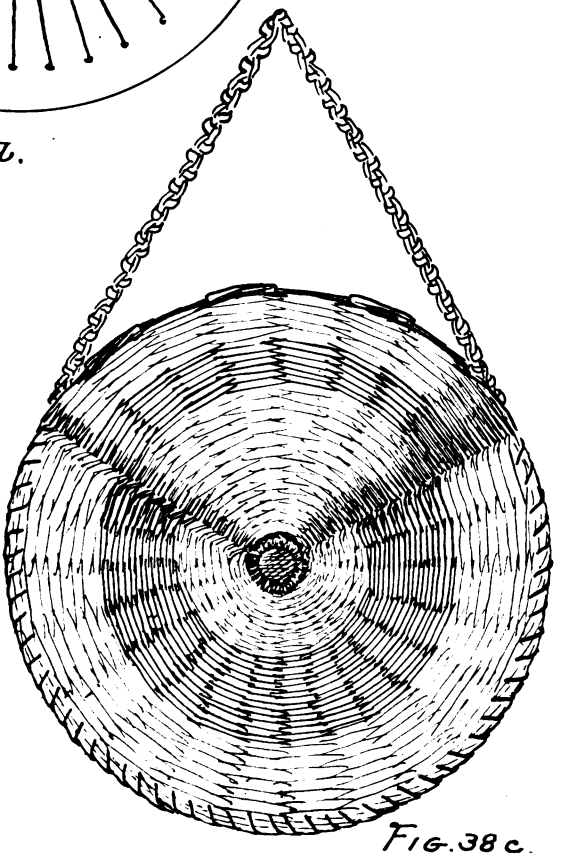


FIG. 38 c.

THIRD YEAR

THIRD YEAR

WEAVING AND BASKETRY

Braiding

Materials:

3 pieces of cable cord, red, brown and white, 15 in., 18 in., 21 in. long.
3 shorter pieces to teach joining.

Tie the long cords together and fasten the knot in desk. Arrange the colors in uniform order, white on the right, red on the left, and brown in the center. Commencing at the top, place the white cord over the brown, red over the white and the brown over the red. Continue this process. (Fig. 39a.)

To lengthen the braid, lap a new piece of cord over the end of the shortest cord and braid; then place a new piece on the next short one, braiding it in and joining the third in the same way.. If preferred, three strands of the same color may be used designating them as right, left and middle cords.

Call the attention of the children to the fact that braiding is simple over and under weaving with which they have been familiar in previous exercises. Instructions for braiding a greater number of strands may be developed from this braid of three. The same principle

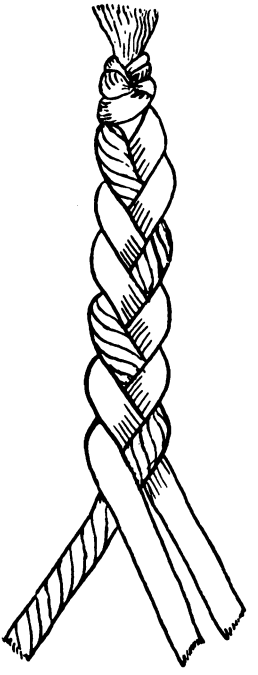


FIG. 39 a.

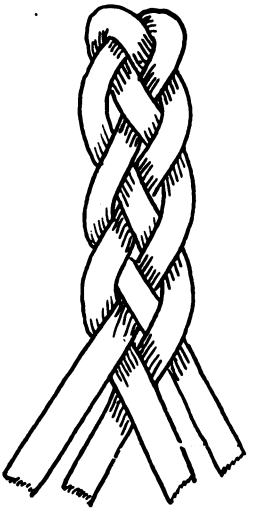


FIG. 39. b.

of over and under weaving is observed; first from the right side and then from the left, the cords meeting or crossing in the center.

In the four strand braid, weave over one from the right, under one from the left, and cross in the center. Repeating this weave produces an even braid. Six, eight or ten strands may be woven in the same way. Should the number of strands be uneven commence with the over weave from both sides. (Fig. 39b.)

Braided Mat

Materials:

Raffia.
Tapestry needle.

Tie the thick ends together of a dozen strands of raffia and fasten to desk. Make an even braid, adding new strands when necessary. Three yards of braid will be sufficient to make the mat. Thread the needle with a thin strand of raffia. Tie the small end around the braid near the top, and trim off above the knot. Form the braid into a small circle, keeping the end underneath, and sew back and forth four times. Continue to coil the braid and sew, taking a stitch through the outer edge of the coil to the inner edge of the next braid, the needle passing through two braids, which should be kept perfectly flat. (Fig. 40.) The next stitch is taken by reversing the direction of the needle, working from the inner to the outer edge through two braids. The stitches should slant slightly and should not be taken far apart.

Another method of sewing braid together for a mat is as follows: Coil the braid, the flat sides touching, and sew together. The top of the mat is now formed by the edges of the braid. A border may be made by looping the braid around the edges in scallops, securing it with a stitch where it touches the outer edge of the mat. Twice the length of the braid will be required to make a mat of this style.

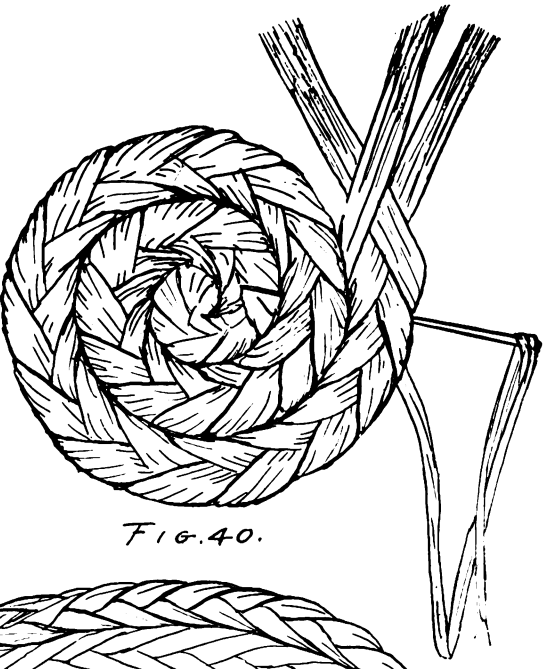


FIG. 40.

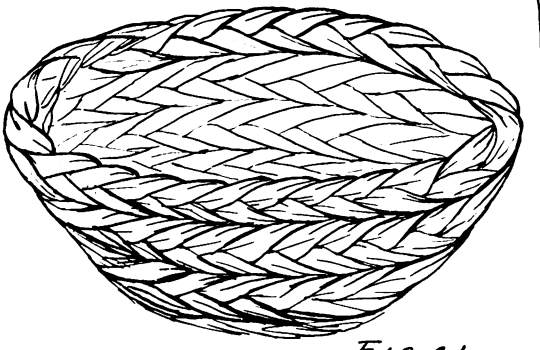


FIG. 41.

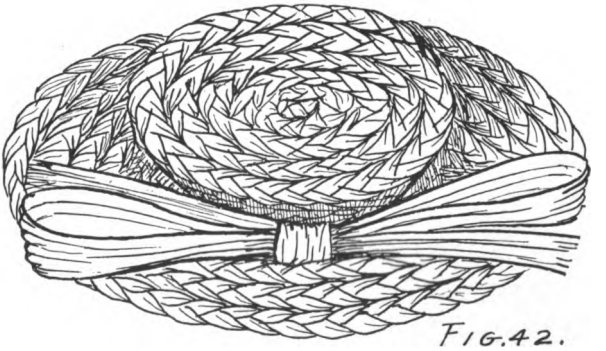


FIG. 42.

Braided Raffia Basket

Materials:

Natural or colored raffia.
Tapestry needle.

Make a braid of raffia about three-quarters of an inch wide; coil and sew together as in making a mat, keeping the braid flat for the bottom of the basket, which is two and one-half inches in diameter. Shape the sides by holding the braid upward and outward while sewing. Three or four rows complete this basket, which should measure about five inches across the top, and resemble a fig basket in shape. (Fig. 41.)

Braided Raffia Hat

Materials:

Natural and colored raffia.
Tapestry needle.

Make an even braid three-eighths of an inch wide; coil and sew with the edges together. When the top measures three inches across begin to shape the sides of the crown. For this the braid must now be held down and a trifle in and drawn tight while sewing. Three or four rows will make the crown sufficiently high. Five or six rows sewed together like the top of the crown makes the flat brim. Finish at the back by tapering the end, secure it under a braid and sew firmly in place. Trim the hat with colored raffia. (Fig. 42.)

Flat Reed Basket

Materials:

12 pieces of flat reed ¼ in. wide, 12 in. long.
4-inch square of cardboard.
Green raffia.
Tapestry needle and coarse linen thread.

Draw a three-inch square on cardboard, place dots one-half inch apart on two opposite sides and perforate. With a needle and thread make six stitches on the two sides, commencing in the corner and sewing through perforations. The thread should be doubled and the stitches not drawn too tight. Fasten on the back with two loop stitches. Pass six pieces of reed singly under both sets of stitches, allowing an even length to extend on two sides of the square. Weave six pieces of reed across this set, making the ends on both sides even. This forms the bottom of the basket. (Fig. 43a).

Bend the pieces of reed upward to form the sides. Make a braid of green raffia three-eighths inch wide and use as a weaver, starting under a reed in the center of one side and weaving once around. As the number of spokes is even it will be necessary at the beginning of each row to pass over two instead of one. Weave about five or six rows, rounding out the sides until the top of the basket measures five inches across. Leave about one-half yard of the braid for the handle. Bend down one reed over the last row of braid and place it inside the

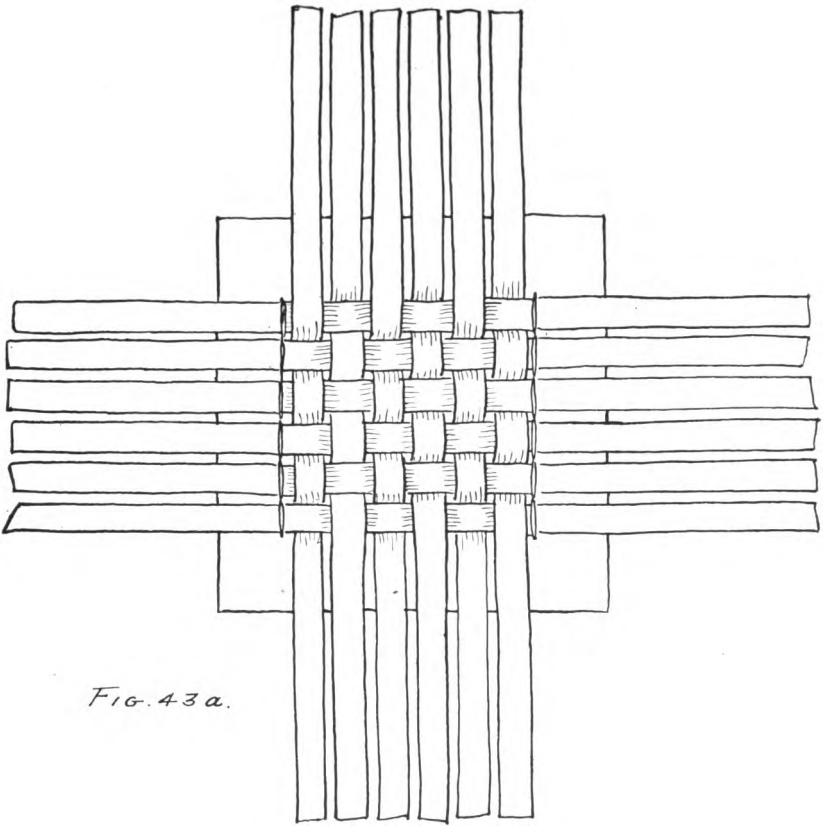


FIG. 43a.

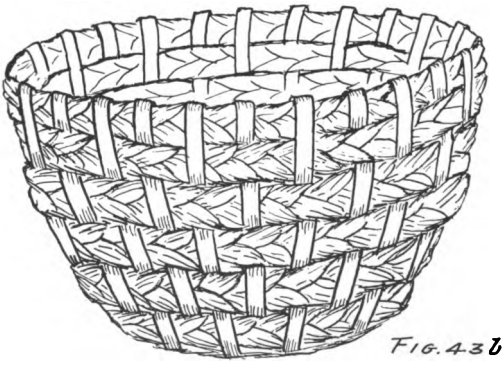


FIG. 43b.

second row. Turn down alternate reeds around the basket and cut off the spokes between even with the top. Take an extra twelve-inch reed, sharpen the ends and insert it at each side under the braid where the weaving ended. The half yard of braid left from the weaving may be twisted around the handle and secured firmly to the opposite side with several stitches. (Fig. 43b.)

Reed Mat

Materials:

8 spokes of reed, No. 3, 12 in. long.
1 spoke of reed, No. 3, 7 in. long.
2 weavers of reed, No. 1.
1 strand of colored raffia.

Make two groups of four spokes each. Lay one set over the other, crossing at the center, and place the short spoke with the upper group, even at one end. Hold the two groups firmly in left hand, and an end of the raffia. Weave the strand of raffia over the upper set, under the lower set, over the third and under the fourth. Repeat once around. This binds the two sets together. (Fig. 44a.) While damp separate the spokes into groups of two, weave over and under twice around with the raffia, using the odd spoke as if it were a pair, and press the weaver toward the center. (Fig. 44b.)

Separate the individual spokes an even distance apart, continue weaving over one and under one with the raffia until the end of the strand is reached. (Fig. 44c.) Take the number 1 weaver, which has been made pliable by soaking, allow the end to extend back of one spoke about an inch, and weave over and under as before until the mat measures four inches across. When weaving avoid bending the spokes. Use the fore-finger to press the weaver toward the center, being careful to avoid a space between the rows.

When a new weaver is necessary join as follows: Pass the end of the first weaver under a spoke, hold the end of a new weaver under the same spoke and continue weaving. This method of joining does not show on the right side, and the next row of weaving makes it perfectly secure.

When the mat is four inches across, finish by pressing the end of weaver down between the last two rows on the wrong side, allowing one-half inch to extend under a spoke. Trim all the spokes an equal length—four inches is required to make the open border. Point the ends of the spokes. The simplest border is made as follows: Select a spoke and call it No. 1; bend over No. 2 and insert down beside No. 3. Bend No. 2 over No. 3 and insert down beside No. 4. Continue this method all around the mat, making the curves uniform. (Fig. 44d.)

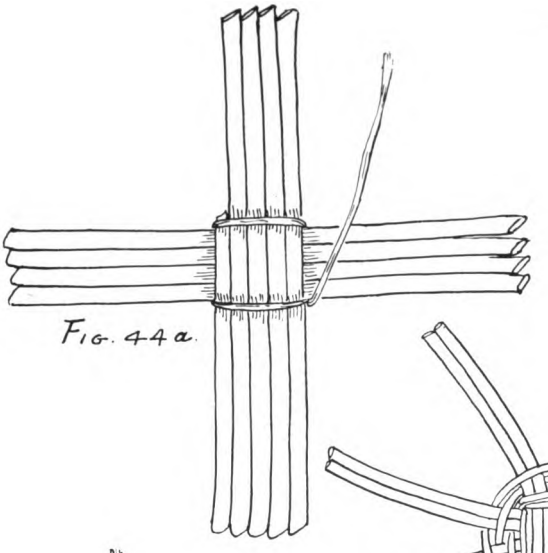


FIG. 44a.

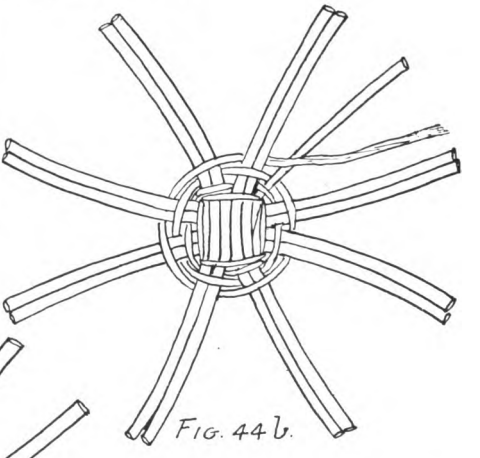


FIG. 44b.

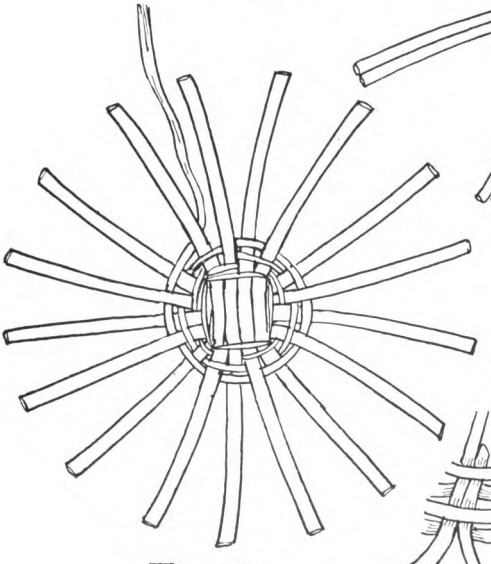


FIG. 44c

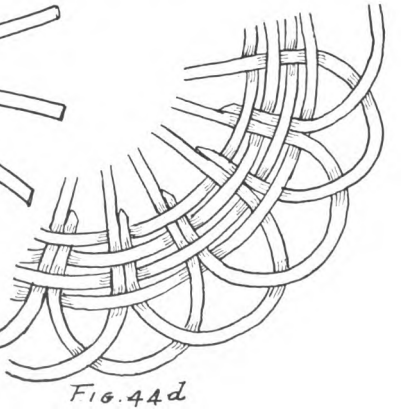


FIG. 44d

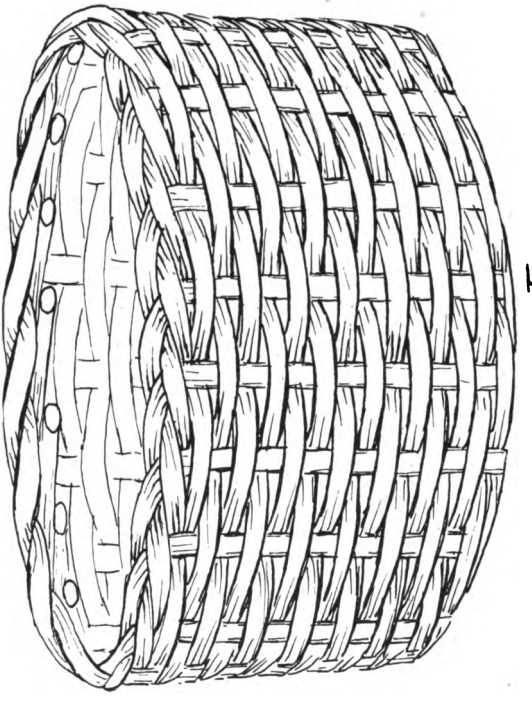


FIG 45.

Round Reed Basket

Materials:

8 spokes of No. 4 reed, 18 in. long.
1 spoke of No. 4 reed, 10 in. long.
6 weavers of No. 1 reed.
1 strand of raffia.
Soak the reed for twenty minutes.

Make a mat as in the preceding lesson, measuring about four inches across, for the bottom of the basket. Turn the spokes upward one by one, bending gradually so as not to break them. The final shape of the basket depends on these spokes being well shaped before weaving the sides. Keep the spokes as nearly perpendicular as possible, holding the bottom toward the worker, the spokes pointing outward. Weave with No. 1 reed, working toward the right and keep the spokes an even distance apart until a height of two and one-half inches is attained.

A simple and effective finish is as follows: Trim all the spokes three inches from the top, pointing them. Select a spoke for No. 1, pass over No. 2, under No. 3, and insert down beside No. 4. Pass No. 2 over No. 3, under No. 4 and insert down beside No. 5. Press the spokes close to the top of the basket. (Fig. 45.)

A cover to fit this basket is made like a reed mat the size of the top. Instead of the open border described in the mat lesson, make a closed border. Work from right to left. Press each spoke over one and under one, close to the last row of weaving. When dry trim the ends of the spokes so that each end is behind a spoke of the basket. If the reed should break in making the border, trim close to the basket and insert a new spoke an inch deep in the weaving.

A ring attached to the center of the cover adds to its finish. Take twelve inches of No. 1 reed, make a coil in the center about one inch in diameter. Coil it twice around then insert the two ends through to the under side of the cover, and tie securely. Cut off the ends.

This basket may be made with a handle by cutting the odd spoke 20 in. long instead of 10 in. When making the border insert an odd spoke by the side of the 20 in. length of reed. Cross over the extra length to the opposite side of the basket and insert in the weaving for two inches. A No. 1 weaver is then rolled around the handle in the following manner: Insert one end in the weaving about 1 in. below the top and wind around the handle at a distance of 1½ in. to the opposite side. Insert from within to outside of basket and return, winding beside the first coil to the beginning. Repeat until the handle is covered. and secure the end in the weaving.

When the basket is finished, wet it again thoroughly

and press in the center of the bottom. This makes a firmer base.

Colored reed makes attractive baskets but it is difficult to procure. Many teachers of basketry dye their own materials and take pleasure in producing beautiful colors.

Reed baskets may also be colored entirely, or in part, by painting them with a dye which comes for this purpose.

Indian Basket

Materials:

5 yds. of twine ¼ in. thick.
Raffia, red and natural colored.
Tapestry needle, No. 21.

Wind the cord in a ball. Ravel the end and taper by cutting out one or more strands. Thread the needle with thin raffia. Place the small end of the raffia on end of cord, lapping one inch; beginning at the end, wind over both for a distance of one and one-half inches, keeping the raffia flat and smooth. (Fig. 46a.) Coil this bound end into a circle, making the hole in the center as small as possible, and bind where the cords lap by taking four over and over stitches through the center.

The cord is then coiled and each row sewed to the coil below as follows: Hold the work in the left hand, wind the raffia twice around the cord from you, then pointing the needle toward the worker take a stitch through the center; wind twice around the cord and again through the center until the circle is completed. The second row is sewed to the coil below, not through the center. (Fig. 46b.) Note that the foundation cord must be well covered and that the number of stitches will increase as the circle widens. When the center which is the bottom of the basket is five inches wide, begin to shape the basket by holding the cord directly above the

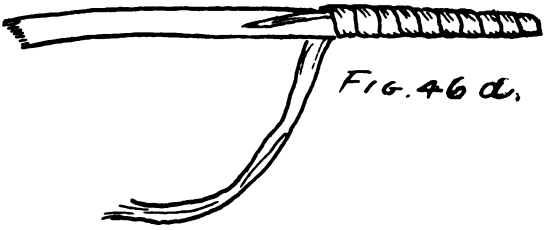


Fig. 46 a.

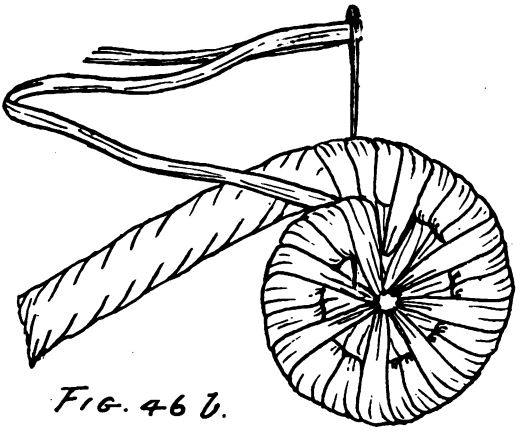


Fig. 46 b.

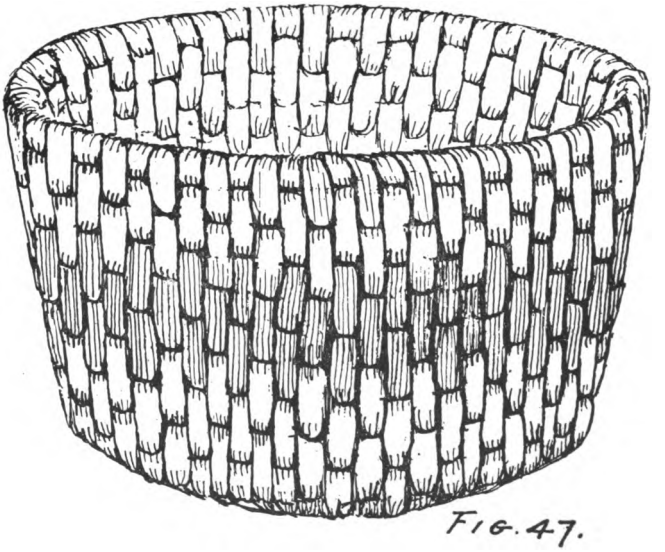


Fig. 47.

last row and sew as before. In order to have the basket even, begin to shape upward exactly opposite to the point where the first row began. Continue sewing the coils one above the other until the sides are two inches high, and finish off directly above the point where the shaping began by thinning out the end of the cord, sewing over and over and hiding the end in the coil below.

To join a new strand wind the old end around the cord, then wind the small end of the new strand around the same place and close up to the last stitch, then sew as before. If done neatly the join is not noticeable. Be careful not to twist the raffia while sewing. Use the needle only for the stitch, allowing the strand to hang while wrapping smoothly over the cord. Fig. 47 shows a completed basket.

The use of color and design are interesting and not difficult even for young children. A piece of colored raffia may be joined in any place and one or more rows will form a band of color. This is the simplest design and calls for no additional instruction. To form blocks of color on the sides of a basket proceed as follows: Join a colored strand and sew for a space of one inch; hold the rest of the colored strand on the foundation cord and join a piece of bleached raffia close up to the color and sew for the space of one inch; change again, using the colored strand for sewing, and keep the bleached raffia on the foundation cord. Continue this spacing, and on the second and succeeding rows use the

colors in the same spaces. This will produce a row of colored blocks all around the basket. If desired, and the height of the basket will allow it, a second row of blocks may be made in alternate spaces, producing a checker-board effect. Variations of this design will occur to the pupils themselves, who should be allowed liberty in using colors and making their own designs, once they understand the principle.

In this lesson cord is used instead of reed for greater convenience in class room work. Reed makes a firmer basket but it requires soaking and is much more difficult for children to handle. The baskets may be started with cord or raffia, and when the center is about one inch in diameter, insert the reed. Taper both the reed and cord ends and lap so as to show no extra thickness. If reed is used for the beginning of the basket make it very pliable by soaking, and shave the end flat rather than pointed.

A cover may be made for this basket by sewing a mat like the bottom about one-quarter inch larger, all around. Make a rim perpendicular to the top about five-eighths inch in depth, tapering the end carefully when completing the basket.

Coiled Basket

Materials:

Raffia, green and natural colored.
Tapestry needle No. 21.

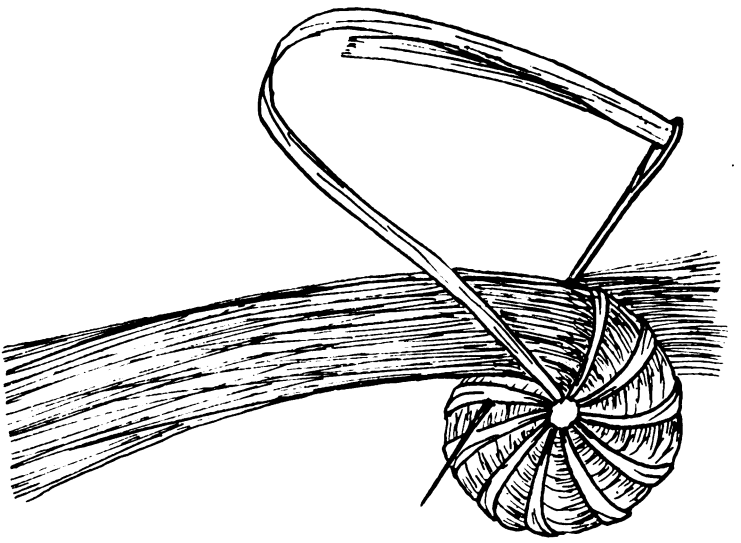


FIG. 48 a.

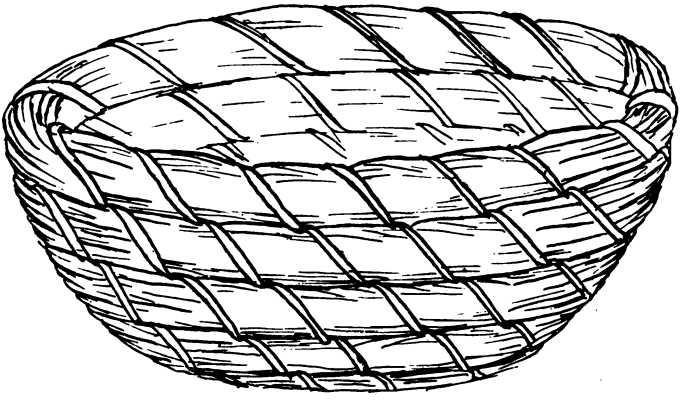


FIG. 48 b.

Make a foundation coil about one-half inch in diameter using natural colored raffia. Thread the needle with a strand of colored raffia and tie the small end of the strand around the foundation coil one-half inch from the coarse end. Wind the raffia not too close together, around the coil ten times. Twist the foundation coil in a small circle, keeping the end underneath, and fasten securely by taking a stitch through the coil under the first twist of colored raffia. (Fig. 48a.) Spread the ten colored stitches an even distance apart; coil the raffia and sew each row to the row underneath with the same number of stitches, which will become farther apart as the size of the mat increases.

To make the stitch, point the needle in a slanting direction through the center of the coil, under the stitch below, the needle being inserted underneath in front of the colored stitch and brought out beyond on the right side. The stitches in each row connect with those of the previous row and radiate from the center. Avoid twisting the foundation coil while sewing. When the spaces between the stitches becomes too great (one inch should be the longest space), an extra stitch may be inserted beside every second one, or wherever they are needed.

Make the bottom of the basket about three inches across. To make a bowl-shaped basket place the coil above and a little outside the last row while sewing, until the basket measures six inches across the top. The last row should be sewed directly above the one underneath.

Taper the foundation coil of raffia at the end in order to procure a neat finish, sewing it down gradually to a point. The foundation coil must be kept the same thickness throughout by inserting new strands in the center of the coil, so that the coarser ends do not show on the outside of the basket. When necessary to join the colored raffia for sewing, tie the two ends with a flat knot which may be hidden in the coil. (Fig. 48b.)

Rug Weaving

Previous to the practical lesson in weaving illustrate the manner in which cloth is woven by ravelling a piece of coarse material, such as burlap or canvas. The interest of the pupils will be aroused by telling them that the spider's web, the bird's nest and the sheath of a bud are samples of nature's weaving. Teach them also that the needs of people led to primitive weaving. Speak of the development of the loom. A story of Indian life makes an attractive introduction to a lesson in weaving.

By means of miniature loom, lead the pupils to observe that the warp strings are fastened to the warp beam, that the material already woven is rolled on the cloth beam, that the heddle lifts alternate threads, making a shed for the shuttle to pass through; the selvedge is made by the passing of woof threads over and under the end warp threads.

Oral and written language lessons on cotton, linen, silk and wool are closely related to the instruction in

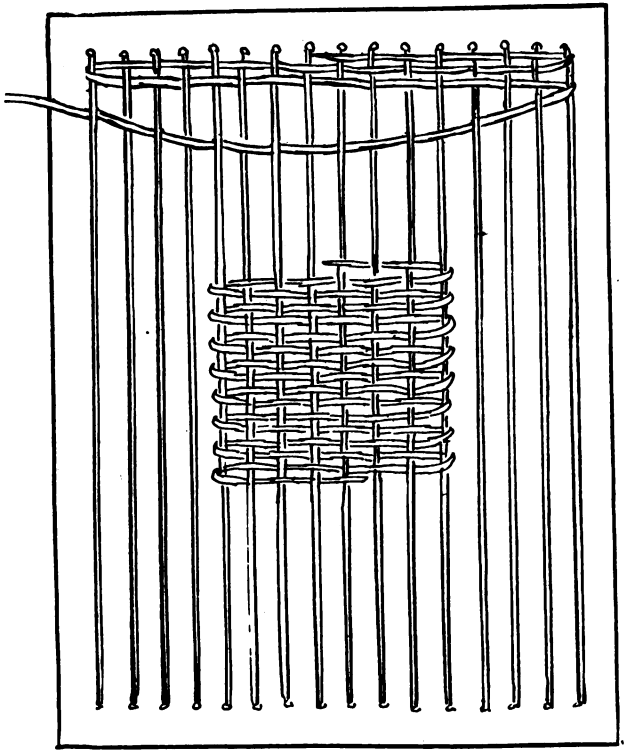


FIG. 49b

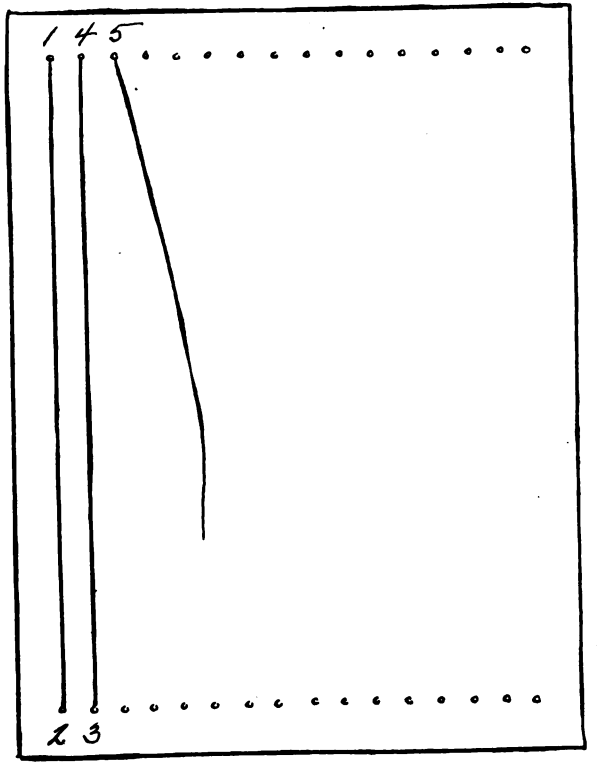


FIG. 49a

weaving and may be simple or advanced according to grade.

Materials:

Heavy cardboard 6x9 in.
3¾ yds. cotton warp thread.
Rug yarn, green and tan.
A tape needle.

Make a loom from the cardboard by punching a row of holes three-quarters inch down from the top and the same distance up from the lower edge. These holes should be three-eighths inch apart and directly opposite each other.

Tie a knot about three inches from the end of the warp string. (This will be needed to secure the weaving when the rug is taken off the card.)

Thread the warp up through No. 1, down through No. 2, up through No. 3 and down through No. 4. (Fig. 49a.) Continue across to the other side threading all the holes. Allow at least three inches, fastening on the back of the loom to the short cord between the holes. These are the warp strings and must be drawn quite tight.

For the woof, cut the rug yarn in two yard lengths. Commence weaving at the top of the card at the middle warp string. Weave over one and under one to the right side and then to the left. The selvedge or finished edge is formed by the woof thread passing alternately over and under the end warp threads.

The woof threads should describe a curve in working across the loom. (Fig. 49b.) This method gives added fullness to the woof, prevents straining the warp threads and will enable the weaver to keep the selvedge straight.

The weaving is done with the fingers. When working toward the left lift the warp string under which the weaver passes with the left hand, weaving with the right. When working from left to right, lift the strings with the right hand and weave with the left. When it is necessary to join the woof thread, lap the weavers for the space of an inch, allowing the short ends to extend on top, this being the wrong side. These ends should be trimmed off when the rug is taken from the loom.

As soon as the children know how to weave evenly, encourage the making of design. A border of another color is a simple form of decoration. The width of the border should be in proportion to the size of the rug. An attractive border for a green rug may be made by weaving two lines of tan, four lines of green, and again two lines of tan.

To form a center of another color use the following method: Weave a square piece in the centre on eight warp strings, using a contrasting color of rug yarn. (Fig. 49b.) With the foundation color weave down as far as the center color and continue down one side on five warp strings, that is, four which were left unwoven and the one woven with the contrasting color. (Fig. 49c.)

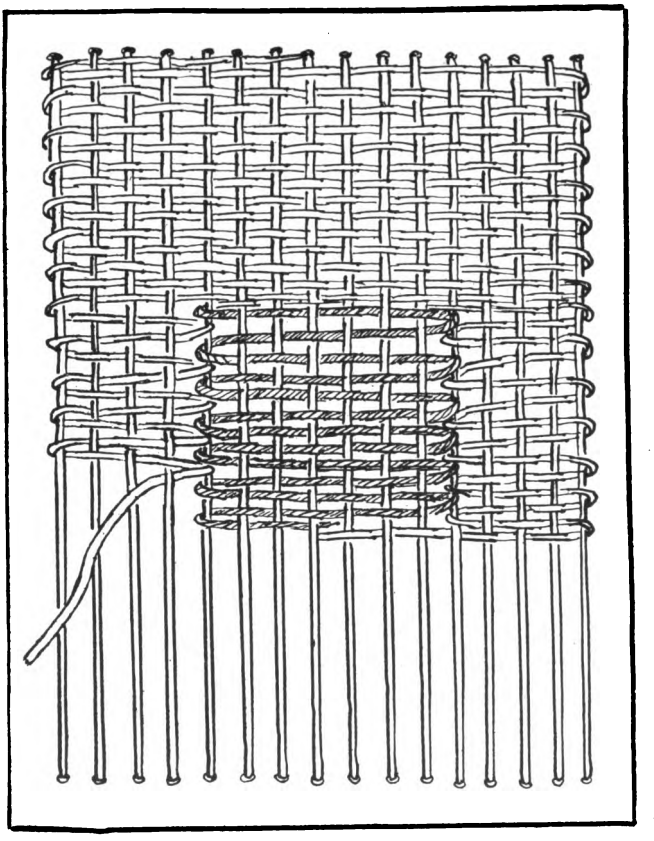


FIG. 49 C.

Notice that the warp strings at the side of the design are used twice, once with the foundation color, and again with the color of the design. Thread the tape needle with the yarn to pass the woof thread through these loops. The other side is filled in with the foundation color in the same way. When both sides are even with center, the remainder of the rug may be woven with the foundation color.

When the children understand interweaving this simple design in the body of the rug more difficult patterns may be attempted. It is necessary to break the cardboard at the holes to remove the rug. The three-inch piece of warp thread left at the beginning and at the end, must be woven over the end row and up into the body of the rug. The woof thread should be pushed sufficiently close in the weaving to form a material of firm texture when taken from the loom.

Any wooden frame may be made into a loom by driving pegs around which to wind the warp threads. The first two and the last two warp threads may be doubled, thus insuring a firm selvedge. The warp strings should be drawn tight enough to spring under the hand.

Fringe for the rug may be made by winding rug yarn around the six-inch card, cutting the yarn at both edges. Pass one of these small pieces through the edge of the rug, double and tie a single knot close to the rug. Follow this method at each end.

Another way of tying fringe in a rug is to double

each strand, looping the doubled piece through the edge of the rug.

A communal rug may be made by joining sixteen rugs, size 6x9 inches. These rugs must be of uniform size. A simple design is suggested in Fig. 49d. This design requires eight rugs with borders which, joined together, will form the border of a large one, four with diamond-shaped figures to form the center and four plain rugs. Sew the rugs together on the wrong side with overhanding stitches, using cotton warp of the same color.

Satisfactory rugs are also made by using rug yarn for warp as well as woof. The warp threads may be one-half inch apart, and will be covered by the woof which must be pressed close together.

A different effect is obtained by placing the warp strings closer together. When the material is woven, the interlacing of warp and woof is plainly seen.

Rag weaving gives as much opportunity for design as the use of rug yarn. The material may be old or new. Cut or tear into three-quarter inch strips, join the ends by lapping one inch and sewing them together. If there is time and opportunity, dyeing may profitably form part of the preparatory work, adding much to the interest of the lesson and tending toward individuality in results.

Use attractive colors for warp. Red warp one-quarter inch apart woven with white rags will give the

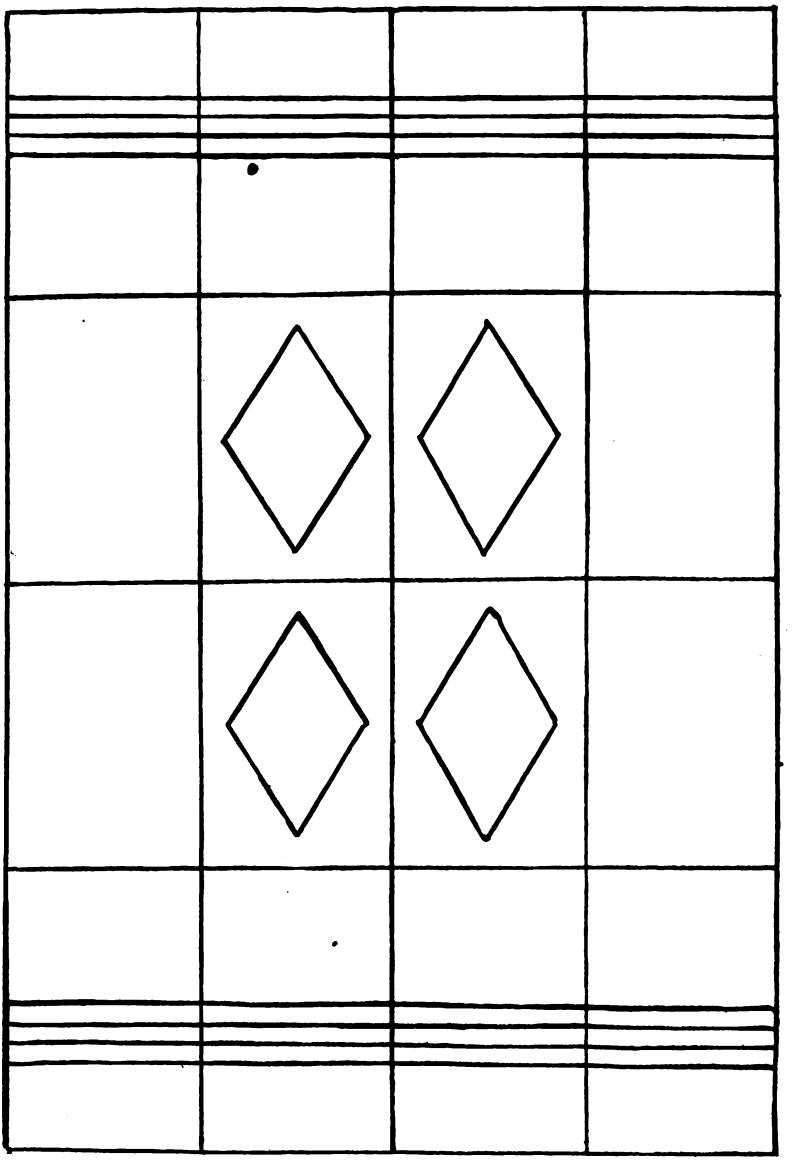


FIG. 49 d.

effect of pink. Blue warp and white filling make an attractive looking bath mat.

In the use of colored yarns, teach the children to have one predominant color, the other colors serving to emphasize the first. Make the border the strongest part of the color scheme, in harmonious contrast with the rest of the rug.

Dashes of color may be made at intervals of any length by weaving two rows together wherever desired. One row will not give the effect of a line. A white rug with green border, and dashes of green here and there in the body of the rug is a simple and attractive model. Woven squares may be made for wash cloths, using Dexter's knitting cotton No. 8.

Raffia also lends itself to this work. Use wide pieces for the warp and place one-quarter inch apart. Striped effects are secured by using different colored woofs at intervals. Plaid effects are obtained in the following way: Use green and white raffia for warp in alternate groups of three strands; weave with green and white raffia for equal distances to correspond with the space taken up by the three warp strands.

Chair Caning

The first model is made on cardboard using raffia.

Materials:

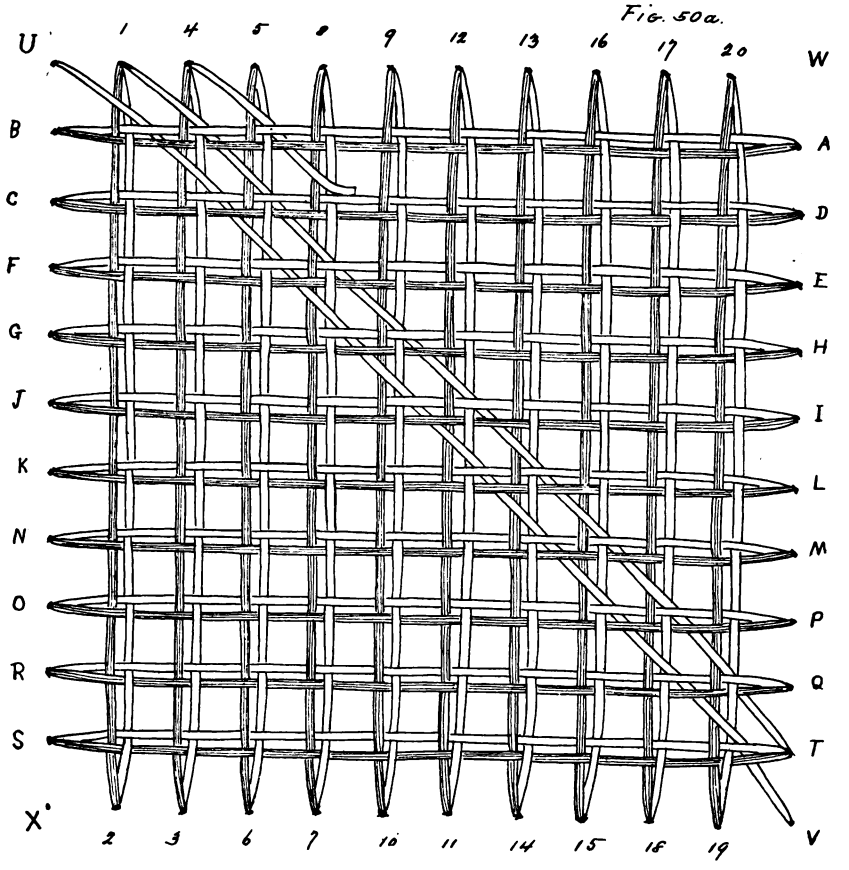
Cardboard 8x10 in.
Raffia, red.
Tapestry needle.

Mark the top of the cardboard to distinguish it from the other sides; draw a five and one-half inch square in the center; place dots on four sides one-half inch apart and perforate these dots. This makes a substitute for the chair seat.

Thread the needle with raffia, bring the raffia up through No. 1 as in Fig. 50. Draw through 2, up through 3, down through 4, and continue until twenty is reached. Bring the needle up through A, down through B, and up through C. Continue crossing until T is reached. Bring the needle up through 19 and make a second set of verticals. Use the same holes as for the first set until the needle is put through No. 2. Bring the needle up through S.

The fourth row must be woven directly under the first horizontal and under and over each vertical. Notice in the diagram (Fig. 50a) that the fourth row is always under the first horizontal and that it is woven under the first vertical and over the second. This relation must be maintained throughout or the fifth and sixth rows cannot be woven in correctly. In the diagram, the third and fourth rows are shaded to illustrate this point.

Fig. 50a.


U
1
4
5
8
9
12
13
16
17
20
W
B
A
C
D
F
E
G
H
J
I
K
L
N
M
O
P
R
Q
S
T
X
2
3
6
7
10
11
14
15
18
19
V

When new raffia is needed, tie it with a flat knot on the wrong side between the holes to the old piece. Use wide strands. They may be kept flat or twisted slightly.

Diagonals. Bring the needle up through the corner U and weave over the verticals and under the horizontals diagonally across to V (Fig. 50a). Bring the needle up through T and continue weaving; passing over verticals and under horizontals until one-half is completed. Finish the other half by starting again in the corner U and weaving to V; up through 19, across to D, continuing until completed.

The sixth row is begun at W and is the reverse of the fifth row; weave over the horizontals and under the verticals, across to X and finish one-half. Begin again at W, weave to X and continue weaving until the set is finished.

The principle underlying the directions for weaving the fifth and sixth rows is that these strands must fit in between the verticals and horizontals, thus giving a spring to the seat. If the process is reversed they will cut against the verticals and horizontals and wear out rapidly. If this principle is understood it is not necessary to remember which is vertical or which is horizontal in giving the instruction.

This lesson using the cardboard and raffia is preliminary to the cane work; binding need not be taught on this cardboard model but it must be included in the reg-

ular chair caning. For this square wooden frames perforated similar to the cardboard model may be bought.

Use fine cane and dampen for twenty minutes before using. A piece of cane is so long that it is an advantage to slip it through the hole as far as the middle; secure it by placing a wooden peg through the hole and use the half length at a time. This saves wear on the cane and is more convenient for the children.

Keep the cane perfectly flat and fairly tight; join the cane when passing from one hole to the next by lapping the new piece under the old for two inches, using a peg to hold it temporarily. An end may be fastened on the back by wrapping it under and over the cane between the holes. A new piece may be started in the same manner. Aim to keep the back of the caning neat.

Use binding cane which is about one-quarter inch wide to finish the edge. Place this over the holes and secure it by passing a piece of fine cane up through each hole, over the binding cane and down through the same hole. (Fig. 50b.)

It will interest the more advanced pupils to allow them to bring chairs to be reseated. Chair seats are sometimes rounded at the sides and front. In caning these seats start at the center and work to the left. If the seat is rounded on the sides it will be necessary to skip a hole in order to keep the lines parallel. Commence at the center and fill in the other side, skipping a

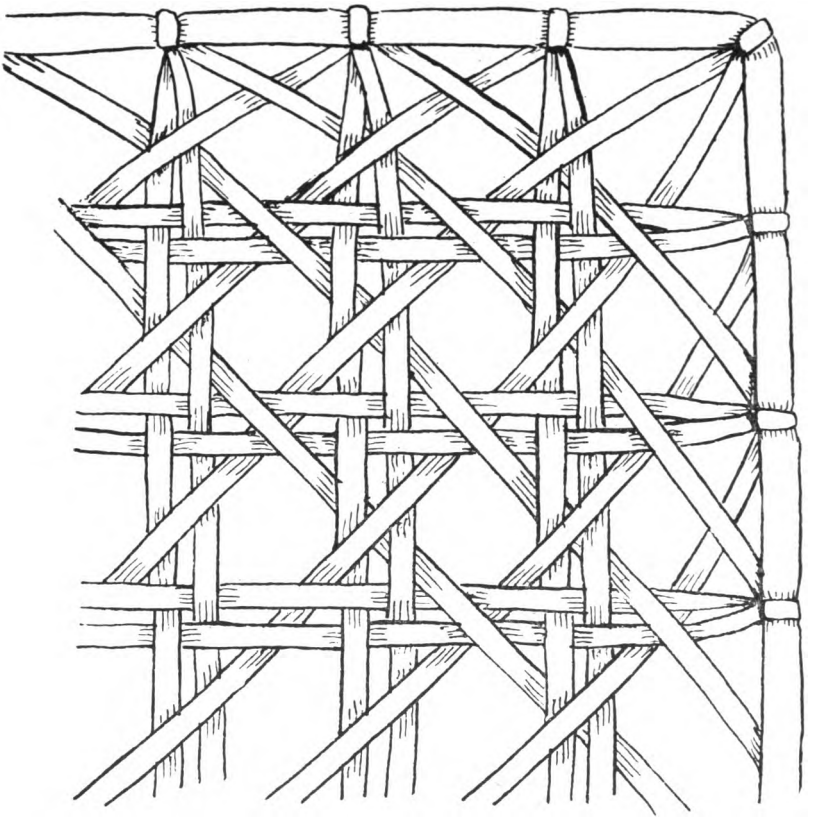


FIG. 50b.

corresponding hole to make both sides alike. Do not soak the cane for more than a few minutes. Be careful not to make the first four sets too tight as the cane will shrink a little when dry.

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